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## SEQUENCE LISTING

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<120> rAAV VECTOR-BASED COMPOSITIONS AND METHODS FOR THE PREVENTION AND  
 TREATMENT OF MAMMALIAN DISEASES

<130> 4300.014500

<140> UNKNOWN  
 <141> 2004-10-19

<150> PCT/US0312324  
 <151> 2003-04-21

<150> 60/374,083  
 <151> 2002-04-19

<160> 54

<170> PatentIn version 3.1

<210> 1  
 <211> 178  
 <212> PRT  
 <213> Homo sapiens

<400> 1

Met His Ser Ser Ala Leu Leu Cys Cys Leu Val Leu Leu Thr Gly Val  
 1 5 10 15

Arg Ala Ser Pro Gly Gln Gly Thr Gln Ser Glu Asn Ser Cys Thr His  
 20 25 30

Phe Pro Gly Asn Leu Pro Asn Met Leu Arg Asp Leu Arg Asp Ala Phe  
 35 40 45

Ser Arg Val Lys Thr Phe Phe Gln Met Lys Asp Gln Leu Asp Asn Leu  
 50 55 60

Leu Leu Lys Glu Ser Leu Leu Glu Asp Phe Lys Gly Tyr Leu Gly Cys  
 65 70 75 80

Gln Ala Leu Ser Glu Met Ile Gln Phe Tyr Leu Glu Glu Val Met Pro  
 85 90 95

Gln Ala Glu Asn Gln Asp Pro Asp Ile Lys Ala His Val Asn Ser Leu  
 100 105 110

Gly Glu Asn Leu Lys Thr Leu Arg Leu Arg Leu Arg Arg Cys His Arg

115 120 125

Phe Leu Pro Cys Glu Asn Lys Ser Lys Ala Val Glu Gln Val Lys Asn  
130 135 140

Ala Phe Asn Lys Leu Gln Glu Lys Gly Ile Tyr Lys Ala Met Ser Glu  
145 150 155 160

Phe Asp Ile Phe Ile Asn Tyr Ile Glu Ala Tyr Met Thr Met Lys Ile  
165 170 175

Arg Asn

<210> 2  
<211> 212  
<212> PRT  
<213> Homo sapiens

<400> 2

Met Asn Ser Phe Ser Thr Ser Ala Phe Gly Pro Val Ala Phe Ser Leu  
1 5 10 15

Gly Leu Leu Leu Val Leu Pro Ala Ala Phe Pro Ala Pro Val Pro Pro  
20 25 30

Gly Glu Asp Ser Lys Asp Val Ala Ala Pro His Arg Gln Pro Leu Thr  
35 40 45

Ser Ser Glu Arg Ile Asp Lys Gln Ile Arg Tyr Ile Leu Asp Gly Ile  
50 55 60

Ser Ala Leu Arg Lys Glu Thr Cys Asn Lys Ser Asn Met Cys Glu Ser  
65 70 75 80

Ser Lys Glu Ala Leu Ala Glu Asn Asn Leu Asn Leu Pro Lys Met Ala  
85 90 95

Glu Lys Asp Gly Cys Phe Gln Ser Gly Phe Asn Glu Glu Thr Cys Leu  
100 105 110

Val Lys Ile Ile Thr Gly Leu Leu Glu Phe Glu Val Tyr Leu Glu Tyr  
115 120 125

Leu Gln Asn Arg Phe Glu Ser Ser Glu Glu Gln Ala Arg Ala Val Gln  
130 135 140

Met Ser Thr Lys Val Leu Ile Gln Phe Leu Gln Lys Lys Ala Lys Asn  
145 150 155 160

Leu Asp Ala Ile Thr Thr Pro Asp Pro Thr Thr Asn Ala Ser Leu Leu  
165 170 175

Thr Lys Leu Gln Ala Gln Asn Gln Trp Leu Gln Asp Met Thr Thr His  
180 185 190

Leu Ile Leu Arg Ser Phe Lys Glu Phe Leu Gln Ser Ser Leu Arg Ala  
195 200 205

Leu Arg Gln Met  
210

<210> 3  
<211> 153  
<212> PRT  
<213> Homo sapiens

<400> 3

Met Gly Leu Thr Ser Gln Leu Leu Pro Pro Leu Phe Phe Leu Leu Ala  
1 5 10 15

Cys Ala Gly Asn Phe Val His Gly His Lys Cys Asp Ile Thr Leu Gln  
20 25 30

Glu Ile Ile Lys Thr Leu Asn Ser Leu Thr Glu Gln Lys Thr Leu Cys  
35 40 45

Thr Glu Leu Thr Val Thr Asp Ile Phe Ala Ala Ser Lys Asn Thr Thr  
50 55 60

Glu Lys Glu Thr Phe Cys Arg Ala Ala Thr Val Leu Arg Gln Phe Tyr  
65 70 75 80

Ser His His Glu Lys Asp Thr Arg Cys Leu Gly Ala Thr Ala Gln Gln  
85 90 95

Phe His Arg His Lys Gln Leu Ile Arg Phe Leu Lys Arg Leu Asp Arg  
100 105 110

Asn Leu Trp Gly Leu Ala Gly Leu Asn Ser Cys Pro Val Lys Glu Ala  
115 120 125

Asn Gln Ser Thr Leu Glu Asn Phe Leu Glu Arg Leu Lys Thr Ile Met  
 130 135 140

Arg Glu Lys Tyr Ser Lys Cys Ser Ser  
 145 150

<210> 4  
 <211> 117  
 <212> PRT  
 <213> Homo sapiens

<400> 4

Met Arg Ala Ser Ser Phe Leu Ile Val Val Val Phe Leu Ile Ala Gly  
 1 5 10 15

Thr Leu Val Leu Glu Ala Ala Val Thr Gly Val Pro Val Lys Gly Gln  
 20 25 30

Asp Thr Val Lys Gly Arg Val Pro Phe Asn Gly Gln Asp Pro Val Lys  
 35 40 45

Gly Gln Val Ser Val Lys Gly Gln Asp Lys Val Lys Ala Gln Glu Pro  
 50 55 60

Val Lys Gly Pro Val Ser Thr Lys Pro Gly Ser Cys Pro Ile Ile Leu  
 65 70 75 80

Ile Arg Cys Ala Met Leu Asn Pro Pro Asn Arg Cys Leu Lys Asp Thr  
 85 90 95

Asp Cys Pro Gly Ile Lys Lys Cys Cys Glu Gly Ser Cys Gly Met Ala  
 100 105 110

Cys Phe Val Pro Gln  
 115

<210> 5  
 <211> 107  
 <212> PRT  
 <213> Homo sapiens

<400> 5

Met Thr Gln Pro Gly Val Leu Arg Ser Ala Ala Ala Arg Lys Pro Gly  
 1 5 10 15

Tyr Cys Pro Glu Phe Asp Leu Asp Cys Pro Phe Thr Leu Leu Pro Met  
 20 25 30

Arg Trp Arg Asp Lys Ser Cys Arg Gly Ser Arg Ser Val Ala Thr Thr  
 35 40 45

Thr Val Gly Ile Ser Val Trp Ser Pro Gly Gly Leu Trp Ile Glu Val  
 50 55 60

Arg Ser Tyr Pro Leu Cys Lys Ser Phe Glu Glu Arg Ser Tyr Pro Phe  
 65 70 75 80

Cys Glu Ser Phe Lys Asp Gln Gln Thr Ser Glu His Pro Ala Cys Arg  
 85 90 95

Glu Glu Pro Pro Ser Pro Gly Pro Pro Leu Cys  
 100 105

<210> 6  
 <211> 89  
 <212> PRT  
 <213> Maccus mullatus

<400> 6

Val Val Val Phe Leu Ile Ala Gly Met Leu Val Val Glu Ala Ala Val  
 1 5 10 15

Thr Gly Val Pro Val Lys Gly Gln Asp Thr Val Lys Gly Arg Val Pro  
 20 25 30

Phe Asn Gly Gln Asp Pro Val Lys Gly Gln Val Ser Val Lys Gly Gln  
 35 40 45

Asp Arg Val Lys Gly Arg Gly Pro Val Lys Gly Pro Val Ser Thr Lys  
 50 55 60

Pro Gly Ser Cys Pro Asn Ile Leu Ile Arg Cys Ala Met Leu Asn Pro  
 65 70 75 80

Pro Asn Arg Cys Leu Lys Asp Thr Asp  
 85

<210> 7  
 <211> 143  
 <212> PRT  
 <213> Sus scrofa

<400> 7

Met Arg Ser Arg Ser Phe Leu Val Leu Val Val Val Phe Leu Ile Cys  
 1 5 10 15

Gly Thr Leu Val Val Gln Ala Ala Gly Arg Ile Arg Arg Pro Lys Gly  
20 25 30

Lys Gly Thr Lys Lys Thr Leu Ala Leu Val Lys Gly Gln Gly Pro Val  
35 40 45

Arg Gly Lys Asp Gln Val Lys Gly Gln Gly Pro Val Lys Gly Gln Asp  
50 55 60

Leu Gly Lys Ser Gln Asp Pro Val Lys Ala Gln Leu Pro Asp Lys Gly  
65 70 75 80

Gln Asp Pro Val Lys Ala Gln Pro Ala Ile Lys Arg Leu Ile Leu Leu  
85 90 95

Thr Lys Pro Gly Ser Cys Pro Arg Ile Leu Ile Arg Cys Leu Met Val  
100 105 110

Asn Pro Pro Asn Arg Cys Leu Ser Asp Ala Gln Cys Pro Gly Val Lys  
115 120 125

Lys Cys Cys Glu Gly Phe Cys Gly Lys Asp Cys Met Asp Pro Lys  
130 135 140

<210> 8

<211> 167

<212> PRT

<213> Sus scrofa

<400> 8

Met Arg Ser Arg Ser Phe Leu Val Leu Val Val Val Phe Leu Ile Cys  
1 5 10 15

Gly Thr Leu Val Ala Gln Ala Ala Gly Arg Ile Arg Arg Pro Lys Gly  
20 25 30

Lys Gly Thr Lys Lys Ile Leu Ala Leu Val Lys Gly Gln Gly Pro Val  
35 40 45

Arg Gly Lys Asp Gln Val Lys Gly Gln Gly Pro Val Lys Gly Gln Asp  
50 55 60

Leu Gly Lys Ser Gln Asp Pro Val Lys Ala Gln Leu Pro Asp Lys Gly  
65 70 75 80

Gln Asp Leu Gly Lys Gly Glu Asp Ser Val Lys Gly Gln Asp Pro Phe  
85 90 95

Lys Ala Gln Leu Pro Asp Lys Leu Gln Asp Pro Val Lys Ala Gln Pro  
100 105 110

Ala Ile Lys Arg Leu Ile Leu Leu Thr Lys Pro Gly Ser Cys Pro Arg  
115 120 125

Ile Leu Ile Arg Cys Leu Met Val Asn Pro Pro Asn Arg Cys Leu Ser  
130 135 140

Asp Ala Gln Cys Pro Gly Leu Lys Lys Cys Cys Glu Gly Phe Cys Gly  
145 150 155 160

Lys Ala Cys Met Asp Pro Lys  
165

<210> 9  
<211> 96  
<212> PRT  
<213> Bos taurus

<400> 9

Ser Pro Lys Gly Gln Gly Asn Val Val Phe Asn Gly Lys Gly Pro Val  
1 5 10 15

Asn Gly Gln Ser Pro Asp Lys Gly Gln Asp Pro Val Lys Gly Gln Asp  
20 25 30

Pro Val Lys Gly Gln Asp Val Val Val Ala Gln Asp Arg Ala Gly Leu  
35 40 45

Pro Phe Lys Arg Gly Leu Cys Pro Arg Val Arg Ile His Cys Asn Leu  
50 55 60

Trp Asn Pro Pro Asn Gln Cys Trp Arg Asp Ala His Cys Pro Gly Ala  
65 70 75 80

Lys Lys Cys Cys Glu Gly Phe Cys Gly Lys Thr Cys Met Asn Pro Arg  
85 90 95

<210> 10  
<211> 131  
<212> PRT  
<213> Rattus norvegicus

<400> 10

Met Lys Ser Cys Gly Leu Phe Pro Leu Met Val Leu Leu Ala Leu Gly  
1 5 10 15

Val Leu Ala Pro Trp Ser Val Glu Gly Gly Lys Asn Asp Ala Ile Lys  
20 25 30

Ile Gly Ala Cys Pro Ala Arg Lys Pro Ala Gln Cys Leu Lys Leu Glu  
35 40 45

Lys Pro Glu Cys Gly Thr Asp Trp Glu Cys Pro Gly Lys Gln Arg Cys  
50 55 60

Cys Gln Asp Thr Cys Gly Phe Lys Cys Leu Asn Pro Val Pro Ile Arg  
65 70 75 80

Gly Pro Val Lys Lys Lys Pro Gly Arg Cys Val Lys Phe Gln Gly Lys  
85 90 95

Cys Leu Met Leu Asn Pro Pro Asn Lys Cys Gln Asn Asp Gly Gln Cys  
100 105 110

Asp Gly Lys Tyr Lys Cys Cys Glu Gly Met Cys Gly Lys Val Cys Leu  
115 120 125

Pro Pro Val  
130

<210> 11

<211> 131

<212> PRT

<213> Mus musculus

<400> 11

Met Lys Ser Cys Gly Leu Leu Pro Phe Thr Val Leu Leu Ala Leu Gly  
1 5 10 15

Ile Leu Ala Pro Trp Thr Val Glu Gly Gly Lys Asn Asp Ala Ile Lys  
20 25 30

Ile Gly Ala Cys Pro Ala Lys Lys Pro Ala Gln Cys Leu Lys Leu Glu  
35 40 45

Lys Pro Gln Cys Arg Thr Asp Trp Glu Cys Pro Gly Lys Gln Arg Cys  
50 55 60



Cys Gln Asp Ala Cys Gly Ser Lys Cys Val Asn Pro Val Pro Ile Arg  
65 70 75 80

Lys Pro Val Trp Arg Lys Pro Gly Arg Cys Val Lys Thr Gln Ala Arg  
85 90 95

Cys Met Met Leu Asn Pro Pro Asn Val Cys Gln Arg Asp Gly Gln Cys  
100 105 110

Asp Gly Lys Tyr Lys Cys Cys Glu Gly Ile Cys Gly Lys Val Cys Leu  
115 120 125

Pro Pro Met  
130

<210> 12  
<211> 397  
<212> PRT  
<213> Rattus norvegicus

<400> 12

Met Asn Trp His Leu Pro Leu Phe Leu Leu Ala Ser Val Thr Leu Pro  
1 5 10 15

Ser Ile Cys Ser His Phe Asn Pro Leu Ser Leu Glu Glu Leu Gly Ser  
20 25 30

Asn Thr Gly Ile Gln Val Phe Asn Gln Ile Val Lys Ser Arg Pro His  
35 40 45

Asp Asn Ile Val Ile Ser Pro His Gly Ile Ala Ser Val Leu Gly Met  
50 55 60

Leu Gln Leu Gly Ala Asp Gly Arg Thr Lys Lys Gln Leu Ala Met Val  
65 70 75 80

Met Arg Tyr Gly Val Asn Gly Val Gly Lys Ile Leu Lys Lys Ile Asn  
85 90 95

Lys Ala Ile Val Ser Lys Lys Asn Lys Asp Ile Val Thr Val Ala Asn  
100 105 110

Ala Val Phe Val Lys Asn Ala Ser Glu Ile Glu Val Pro Phe Val Thr  
115 120 125

Arg Asn Lys Asp Val Phe Gln Cys Glu Val Arg Asn Val Asn Phe Glu  
130 135 140

Asp Pro Ala Ser Ala Cys Asp Ser Ile Asn Ala Trp Val Lys Asn Glu  
145 150 155 160

Thr Arg Asp Met Ile Asp Asn Leu Leu Ser Pro Asp Leu Ile Asp Gly  
165 170 175

Val Leu Thr Arg Leu Val Leu Val Asn Ala Val Tyr Phe Lys Gly Leu  
180 185 190

Trp Lys Ser Arg Phe Gln Pro Glu Asn Thr Lys Lys Arg Thr Phe Val  
195 200 205

Ala Ala Asp Gly Lys Ser Tyr Gln Val Pro Met Leu Ala Gln Leu Ser  
210 215 220

Val Phe Arg Cys Gly Ser Thr Ser Ala Pro Asn Asp Leu Trp Tyr Asn  
225 230 235 240

Phe Ile Glu Leu Pro Tyr His Gly Glu Ser Ile Ser Met Leu Ile Ala  
245 250 255

Leu Pro Thr Glu Ser Ser Thr Pro Leu Ser Ala Ile Ile Pro His Ile  
260 265 270

Ser Thr Lys Thr Ile Asp Ser Trp Met Ser Ile Met Val Pro Lys Arg  
275 280 285

Val Gln Val Ile Leu Pro Lys Phe Thr Ala Val Ala Gln Thr Asp Leu  
290 295 300

Lys Glu Pro Leu Lys Val Leu Gly Ile Thr Asp Met Phe Asp Ser Ser  
305 310 315 320

Lys Ala Asn Phe Ala Lys Ile Thr Arg Ser Glu Asn Leu His Val Ser  
325 330 335

His Ile Leu Gln Lys Ala Lys Ile Glu Val Ser Glu Asp Gly Thr Lys  
340 345 350

Ala Ser Ala Ala Thr Thr Ala Ile Leu Ile Ala Arg Ser Ser Pro Pro  
355 360 365

Trp Phe Ile Val Asp Arg Pro Phe Leu Phe Phe Ile Arg His Asn Pro  
370 375 380

Thr Gly Ala Val Leu Phe Met Gly Gln Ile Asn Lys Pro  
 385 390 395

<210> 13  
 <211> 374  
 <212> PRT  
 <213> Homo sapiens

<400> 13  
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Met Asn Thr Leu Ser Glu Gly Asn Gly Thr Phe Ala Ile His Leu Leu  
 1 5 10 15

Lys Met Leu Cys Gln Ser Asn Pro Ser Lys Asn Val Cys Tyr Ser Pro  
 20 25 30

Ala Ser Ile Ser Ser Ala Leu Ala Met Val Leu Leu Gly Ala Lys Gly  
 35 40 45

Gln Thr Ala Val Gln Ile Ser Gln Ala Leu Gly Leu Asn Lys Glu Glu  
 50 55 60

Gly Ile His Gln Gly Phe Gln Leu Leu Leu Arg Lys Leu Asn Lys Pro  
 65 70 75 80

Asp Arg Lys Tyr Ser Leu Arg Val Ala Asn Arg Leu Phe Ala Asp Lys  
 85 90 95

Thr Cys Glu Val Leu Gln Thr Phe Lys Glu Ser Ser Leu His Phe Tyr  
 100 105 110

Asp Ser Glu Met Glu Gln Leu Ser Phe Ala Glu Glu Ala Glu Val Ser  
 115 120 125

Arg Gln His Ile Asn Thr Trp Val Ser Lys Gln Thr Glu Gly Lys Ile  
 130 135 140

Pro Glu Leu Leu Ser Gly Gly Ser Val Asp Ser Glu Thr Arg Leu Val  
 145 150 155 160

Leu Ile Asn Ala Leu Tyr Phe Lys Gly Lys Trp His Gln Pro Phe Asn  
 165 170 175

Lys Glu Tyr Thr Met Asp Met Pro Phe Lys Ile Asn Lys Asp Glu Lys  
 180 185 190

Arg Pro Val Gln Met Met Cys Arg Glu Asp Thr Tyr Asn Leu Ala Tyr

195 200 205

Val Lys Glu Val Gln Ala Gln Val Leu Val Met Pro Tyr Glu Gly Met  
210 215 220

Glu Leu Ser Leu Val Val Leu Leu Pro Asp Glu Gly Val Asp Leu Ser  
225 230 235 240

Lys Val Glu Asn Asn Leu Thr Phe Glu Lys Leu Thr Ala Trp Met Glu  
245 250 255

Ala Asp Phe Met Lys Ser Thr Asp Val Glu Val Phe Leu Pro Lys Phe  
260 265 270

Lys Leu Gln Glu Asp Tyr Asp Met Glu Ser Leu Phe Gln Arg Leu Gly  
275 280 285

Val Val Asp Val Phe Gln Glu Asp Lys Ala Asp Leu Ser Gly Met Ser  
290 295 300

Pro Glu Arg Asn Leu Cys Val Ser Lys Phe Val His Gln Ser Val Val  
305 310 315 320

Glu Ile Asn Glu Glu Gly Thr Glu Ala Ala Ala Ala Ser Ala Ile Ile  
325 330 335

Glu Phe Cys Cys Ala Ser Ser Val Pro Thr Phe Cys Ala Asp His Pro  
340 345 350

Phe Leu Phe Phe Ile Arg His Asn Lys Ala Asn Ser Ile Leu Phe Cys  
355 360 365

Gly Arg Phe Ser Ser Pro  
370

<210> 14  
<211> 410  
<212> PRT  
<213> Cyprinus carpio

<400> 14

Met Ala Trp Ala Ala Pro His Glu Gly His Asp His Asp Gly His Pro  
1 5 10 15

Ala Asp His Tyr His His Leu His His Gly Lys Asp Glu Ala His Pro  
20 25 30

Ser His Ser Gly Glu Asp Ala Cys His Leu Leu Ser Pro His Asn Ala  
 35 40 45

Asp Phe Ala Phe Ser Leu Tyr Lys Lys Leu Ala Leu His Pro Asp Ala  
 50 55 60

Gln Gly Lys Asn Ile Phe Phe Ser Pro Val Gly Ile Ser Met Ala Leu  
 65 70 75 80

Ser Met Leu Ala Val Gly Ala Lys Gly Ser Thr Leu Ser Gln Ile Tyr  
 85 90 95

Ser Ser Leu Gly Tyr Ser Gly Leu Lys Ala Gln Gln Val Asn Glu Gly  
 100 105 110

Tyr Glu His Leu Ile His Met Leu Gly His Ser Gln Asp Thr Met Gln  
 115 120 125

Leu Glu Ala Gly Ala Gly Val Ala Ile Arg Glu Gly Phe Lys Val Val  
 130 135 140

Asp Gln Phe Leu Lys Asp Val Gln His Tyr Tyr Asn Ser Glu Ala Phe  
 145 150 155 160

Ser Val Asp Phe Ser Lys Pro Glu Ile Ala Ala Glu Glu Ile Asn Gln  
 165 170 175

Phe Ile Ala Lys Lys Thr Asn Asp Lys Ile Thr Asp Met Val Lys Asp  
 180 185 190

Leu Asp Ser Asp Met Val Met Met Leu Ile Asn Tyr Met Tyr Phe Arg  
 195 200 205

Gly Lys Trp Asp Lys Pro Phe Glu Ala Gln Leu Thr His Lys Ala Glu  
 210 215 220

Phe Lys Val Asp Lys Asp Thr Thr Val Gln Val Asp Met Met Lys Arg  
 225 230 235 240

Thr Gly Arg Tyr Asp Ile Tyr Gln Asp Pro Val Asn Gln Thr Thr Val  
 245 250 255

Met Met Val Pro Tyr Lys Gly Asn Thr Ser Met Met Ile Val Leu Pro  
 260 265 270

Asp Glu Gly Lys Met Lys Asp Val Glu Glu Ser Ile Cys Arg His His  
 275 280 285

Leu Lys Asn Trp His Asp Lys Leu Phe Arg Ser Ser Val Asp Leu Phe  
 290 295 300

Met Pro Lys Phe Ser Ile Ser Ala Thr Ser Lys Leu Asn Asp Ile Leu  
 305 310 315 320

Thr Glu Met Gly Val Thr Asp Ala Phe Ser Asp Thr Ala Asp Phe Ser  
 325 330 335

Gly Met Thr Glu Glu Leu Lys Val Lys Val Ser Gln Val Val His Lys  
 340 345 350

Ala Val Leu Ser Val Asp Glu Lys Gly Thr Glu Ala Ala Ala Ala Thr  
 355 360 365

Thr Ile Glu Ile Met Pro Met Ser Leu Pro Gly Thr Val Met Leu Asn  
 370 375 380

Arg Pro Phe Leu Val Leu Ile Val Glu Asp Thr Thr Lys Ser Ile Leu  
 385 390 395 400

Phe Met Gly Lys Ile Thr Asn Pro Thr Val  
 405 410

<210> 15  
 <211> 378  
 <212> PRT  
 <213> Sus scrofa

<220>  
 <221> MISC\_FEATURE  
 <222> (337)..(337)  
 <223> X = ANY AMINO ACID

<400> 15

Met Glu Gln Leu Ser Ala Ala Asn Thr Arg Phe Ala Leu Asp Leu Phe  
 1 5 10 15

Arg Ala Leu Asn Glu Ser Asn Pro Ala Gly Asn Ile Phe Ile Ser Pro  
 20 25 30

Phe Ser Ile Ser Ser Ala Leu Ala Met Ile Leu Leu Gly Thr Arg Gly  
 35 40 45

Asn Thr Glu Ala Gln Met Ser Lys Ala Leu His Phe Asp Thr Val Lys  
 50 55 60

Asp Ile His Ser Arg Phe Gln Ser Leu Asn Ala Asp Ile Asn Lys Cys  
 65 70 75 80

Gly Ala Ser Tyr Ile Leu Lys Leu Ala Asn Arg Leu Phe Gly Glu Lys  
 85 90 95

Thr Tyr His Phe Leu Pro Glu Phe Leu Ala Ser Thr Gln Lys Thr Tyr  
 100 105 110

Gly Ala Glu Leu Ala Ser Val Asp Phe Leu Arg Ala Ser Glu Glu Ala  
 115 120 125

Arg Lys Ala Ile Asn Glu Trp Val Lys Glu Gln Thr Glu Gly Lys Ile  
 130 135 140

Pro Glu Leu Leu Ala Ser Gly Val Val Asp Ser Ala Thr Lys Leu Val  
 145 150 155 160

Leu Val Asn Ala Ile Tyr Phe Lys Gly Ser Trp Gln Glu Lys Phe Met  
 165 170 175

Thr Glu Ala Thr Lys Asp Ala Pro Phe Arg Leu Asn Lys Lys Asp Ser  
 180 185 190

Lys Thr Val Lys Met Met Tyr Gln Lys Lys Lys Phe Pro Phe Gly Tyr  
 195 200 205

Ile Lys Glu Leu Lys Cys Arg Val Leu Glu Leu Pro Tyr Gln Gly Lys  
 210 215 220

Asp Leu Ser Met Val Ile Leu Leu Pro Asp Ser Ile Glu Asp Glu Ser  
 225 230 235 240

Thr Gly Leu Arg Lys Ile Glu Gln His Leu Thr Leu Glu Lys Leu Arg  
 245 250 255

Glu Trp Thr Lys Pro Asp Asn Leu Glu Leu Leu Glu Val Asn Val His  
 260 265 270

Leu Pro Arg Phe Arg Leu Glu Glu Ser Tyr Asp Leu Asn Ala Pro Leu  
 275 280 285

Ala Arg Leu Gly Val Gln Asp Leu Phe Gly Ser Arg Ala Asp Leu Thr

290                                      295                                      300  
 Gly Met Ser Glu Ala Arg Asp Leu Phe Ile Ser Lys Val Val His Lys  
 305                                      310                                      315                                      320  
 Ser Phe Val Glu Val Asn Glu Glu Gly Thr Glu Ala Ala Ala Ala Thr  
 325                                      330                                      335  
 Xaa Gly Ile Ala Val Phe Ala Met Leu Met Pro Glu Glu Asp Phe Ile  
 340                                      345                                      350  
 Ala Asp His Pro Phe Ile Phe Phe Ile Arg His Asn Pro Ser Ser Asn  
 355                                      360                                      365  
 Ile Leu Phe Leu Gly Arg Leu Ser Ser Pro  
 370                                      375

<210> 16  
 <211> 54  
 <212> PRT  
 <213> Equus caballus

<400> 16

Glu Asp Leu Gln Gly Asp Ala Val Pro Glu Arg His Ala Thr Lys Asp  
 1                                      5                                      10                                      15

Asp Asn Glu His Pro Gln Glu Pro Ala Glu His Lys Lys Ala Pro Asn  
 20                                      25                                      30

Glu Ala Ile Arg Thr Leu Leu His Thr Asn Val Glu Phe Asn Arg Pro  
 35                                      40                                      45

Phe Val Leu Ile Ile Tyr  
 50

<210> 17  
 <211> 49  
 <212> PRT  
 <213> Equus caballus

<400> 17

Glu Asp Leu Gln Gly Asp Ala Val Pro Glu Arg His Ala Thr Lys Asp  
 1                                      5                                      10                                      15

Asp Asn Glu His Pro Gln Glu Pro Ala Glu His Lys Lys Ala Pro Asn  
 20                                      25                                      30



Glu Arg Pro Ala Thr Leu Leu Leu Asp Asn Val Glu Phe Asn Arg Pro  
35 40 45

Phe

<210> 18  
<211> 54  
<212> PRT  
<213> Equus caballus

<400> 18

Glu Asp Leu Gln Gly Asp Ala Val Pro Glu Arg His Ala Thr Lys Asp  
1 5 10 15

Asp Asn Glu His Pro Gln Glu Pro Ala Glu His Lys Lys Ala Pro Asn  
20 25 30

Glu Met Ile Pro Met Ser Leu Pro Pro Glu Leu Glu Phe Asn Arg Pro  
35 40 45

Phe Ile Leu Ile Ile Tyr  
50

<210> 19  
<211> 390  
<212> PRT  
<213> Homo sapiens

<400> 19

Met Asn Ser Leu Ser Glu Ala Asn Thr Lys Phe Met Phe Asp Leu Phe  
1 5 10 15

Gln Gln Phe Arg Lys Ser Lys Glu Asn Asn Ile Phe Tyr Ser Pro Ile  
20 25 30

Ser Ile Thr Ser Ala Leu Gly Met Val Leu Leu Gly Ala Lys Asp Asn  
35 40 45

Thr Ala Gln Gln Ile Ser Lys Val Leu His Phe Asp Gln Val Thr Glu  
50 55 60

Asn Thr Thr Glu Lys Ala Ala Thr Tyr His Val Asp Arg Ser Gly Asn  
65 70 75 80

Val His His Gln Phe Gln Lys Leu Leu Thr Glu Phe Asn Lys Ser Thr  
85 90 95

Asp Ala Tyr Glu Leu Lys Ile Ala Asn Lys Leu Phe Gly Glu Lys Thr  
100 105 110

Tyr Gln Phe Leu Gln Glu Tyr Leu Asp Ala Ile Lys Lys Phe Tyr Gln  
115 120 125

Thr Ser Val Glu Ser Thr Asp Phe Ala Asn Ala Pro Glu Glu Ser Arg  
130 135 140

Lys Lys Ile Asn Ser Trp Val Glu Ser Gln Thr Asn Glu Lys Ile Lys  
145 150 155 160

Asn Leu Phe Pro Asp Gly Thr Ile Gly Asn Asp Thr Thr Leu Val Leu  
165 170 175

Val Asn Ala Ile Tyr Phe Lys Gly Gln Trp Glu Asn Lys Phe Lys Lys  
180 185 190

Glu Asn Thr Lys Glu Glu Lys Phe Trp Pro Asn Lys Asn Thr Tyr Lys  
195 200 205

Ser Val Gln Met Met Arg Gln Tyr Asn Ser Phe Asn Phe Ala Leu Leu  
210 215 220

Glu Asp Val Gln Ala Lys Val Leu Glu Ile Pro Tyr Lys Gly Lys Asp  
225 230 235 240

Leu Ser Met Ile Val Leu Leu Pro Asn Glu Ile Asp Gly Leu Gln Lys  
245 250 255

Leu Glu Glu Lys Leu Thr Ala Glu Lys Leu Met Glu Trp Thr Ser Leu  
260 265 270

Gln Asn Met Arg Glu Thr Cys Val Asp Leu His Leu Pro Arg Phe Lys  
275 280 285

Met Glu Glu Ser Tyr Asp Leu Lys Asp Thr Leu Arg Thr Met Gly Met  
290 295 300

Val Asn Ile Phe Asn Gly Asp Ala Asp Leu Ser Gly Met Thr Trp Ser  
305 310 315 320

His Gly Leu Ser Val Ser Lys Val Leu His Lys Ala Phe Val Glu Val  
325 330 335

Thr Glu Glu Gly Val Glu Ala Ala Ala Ala Thr Ala Val Val Val Val  
 340 345 350

Glu Leu Ser Ser Pro Ser Thr Asn Glu Glu Phe Cys Cys Asn His Pro  
 355 360 365

Phe Leu Phe Phe Ile Arg Gln Asn Lys Thr Asn Ser Ile Leu Phe Tyr  
 370 375 380

Gly Arg Phe Ser Ser Pro  
 385 390

<210> 20  
 <211> 418  
 <212> PRT  
 <213> Homo sapiens

<400> 20

Met Pro Ser Ser Val Ser Trp Gly Ile Leu Leu Leu Ala Gly Leu Cys  
 1 5 10 15

Cys Leu Val Pro Val Ser Leu Ala Glu Asp Pro Gln Gly Asp Ala Ala  
 20 25 30

Gln Lys Thr Asp Thr Ser His His Asp Gln Asp His Pro Thr Phe Asn  
 35 40 45

Lys Ile Thr Pro Asn Leu Ala Glu Phe Ala Phe Ser Leu Tyr Arg Gln  
 50 55 60

Leu Ala His Gln Ser Asn Ser Thr Asn Ile Phe Phe Ser Pro Val Ser  
 65 70 75 80

Ile Ala Thr Ala Phe Ala Met Leu Ser Leu Gly Thr Lys Ala Asp Thr  
 85 90 95

His Asp Glu Ile Leu Glu Gly Leu Asn Phe Asn Leu Thr Glu Ile Pro  
 100 105 110

Glu Ala Gln Ile His Glu Gly Phe Gln Glu Leu Leu Arg Thr Leu Asn  
 115 120 125

Gln Pro Asp Ser Gln Leu Gln Leu Thr Thr Gly Asn Gly Leu Phe Leu  
 130 135 140

Ser Glu Gly Leu Lys Leu Val Asp Lys Phe Leu Glu Asp Val Lys Lys

145		150		155		160
Leu Tyr His Ser	Glu Ala Phe Thr Val	Asn Phe Gly Asp Thr	Glu Glu			
	165	170	175			
Ala Lys Lys Gln Ile Asn Asp Tyr Val	Glu Lys Gly Thr	Gln Gly Lys				
	180	185	190			
Ile Val Asp Leu Val Lys Glu Leu Asp Arg Asp Thr Val Phe Ala Leu		200	205			
	195					
Val Asn Tyr Ile Phe Phe Lys Gly Lys Trp Glu Arg Pro Phe Glu Val		215	220			
	210					
Lys Asp Thr Glu Glu Glu Asp Phe His Val Asp Gln Val Thr Thr Val		230	235			240
Lys Val Pro Met Met Lys Arg Leu Gly Met Phe Asn Ile Gln His Cys		245	250			255
Lys Lys Leu Ser Ser Trp Val Leu Leu Met Lys Tyr Leu Gly Asn Ala		260	265			270
Thr Ala Ile Phe Phe Leu Pro Asp Glu Gly Lys Leu Gln His Leu Glu		275	280			285
Asn Glu Leu Thr His Asp Ile Ile Thr Lys Phe Leu Glu Asn Glu Asp		290	295			300
Arg Arg Ser Ala Ser Leu His Leu Pro Lys Leu Ser Ile Thr Gly Thr		305	310			315
						320
Tyr Asp Leu Lys Ser Val Leu Gly Gln Leu Gly Ile Thr Lys Val Phe		325	330			335
Ser Asn Gly Ala Asp Leu Ser Gly Val Thr Glu Glu Ala Pro Leu Lys		340	345			350
Leu Ser Lys Ala Val His Lys Ala Val Leu Thr Ile Asp Glu Lys Gly		355	360			365
Thr Glu Ala Ala Gly Ala Met Phe Leu Glu Ala Ile Pro Met Ser Ile		370	375			380
Pro Pro Glu Val Lys Phe Asn Lys Pro Phe Val Phe Leu Met Ile Glu		385	390			395
						400

Gln Asn Thr Lys Ser Pro Leu Phe Met Gly Lys Val Val Asn Pro Thr  
 405 410 415

Gln Lys

<210> 21  
 <211> 464  
 <212> PRT  
 <213> Homo sapiens

<400> 21

Met Tyr Ser Asn Val Ile Gly Thr Val Thr Ser Gly Lys Arg Lys Val  
 1 5 10 15

Tyr Leu Leu Ser Leu Leu Leu Ile Gly Phe Trp Asp Cys Val Thr Cys  
 20 25 30

His Gly Ser Pro Val Asp Ile Cys Thr Ala Lys Pro Arg Asp Ile Pro  
 35 40 45

Met Asn Pro Met Cys Ile Tyr Arg Ser Pro Glu Lys Lys Ala Thr Glu  
 50 55 60

Asp Glu Gly Ser Glu Gln Lys Ile Pro Glu Ala Thr Asn Arg Arg Val  
 65 70 75 80

Trp Glu Leu Ser Lys Ala Asn Ser Arg Phe Ala Thr Thr Phe Tyr Gln  
 85 90 95

His Leu Ala Asp Ser Lys Asn Asp Asn Asp Asn Ile Phe Leu Ser Pro  
 100 105 110

Leu Ser Ile Ser Thr Ala Phe Ala Met Thr Lys Leu Gly Ala Cys Asn  
 115 120 125

Asp Thr Leu Gln Gln Leu Met Glu Val Phe Lys Phe Asp Thr Ile Ser  
 130 135 140

Glu Lys Thr Ser Asp Gln Ile His Phe Phe Phe Ala Lys Leu Asn Cys  
 145 150 155 160

Arg Leu Tyr Arg Lys Ala Asn Lys Ser Ser Lys Leu Val Ser Ala Asn  
 165 170 175

Arg Leu Phe Gly Asp Lys Ser Leu Thr Phe Asn Glu Thr Tyr Gln Asp  
 180 185 190

Ile Ser Glu Leu Val Tyr Gly Ala Lys Leu Gln Pro Leu Asp Phe Lys  
 195 200 205

Glu Asn Ala Glu Gln Ser Arg Ala Ala Ile Asn Lys Trp Val Ser Asn  
 210 215 220

Lys Thr Glu Gly Arg Ile Thr Asp Val Ile Pro Ser Glu Ala Ile Asn  
 225 230 235 240

Glu Leu Thr Val Leu Val Leu Val Asn Thr Ile Tyr Phe Lys Gly Leu  
 245 250 255

Trp Lys Ser Lys Phe Ser Pro Glu Asn Thr Arg Lys Glu Leu Phe Tyr  
 260 265 270

Lys Ala Asp Gly Glu Ser Cys Ser Ala Ser Met Met Tyr Gln Glu Gly  
 275 280 285

Lys Phe Arg Tyr Arg Arg Val Ala Glu Gly Thr Gln Val Leu Glu Leu  
 290 295 300

Pro Phe Lys Gly Asp Asp Ile Thr Met Val Leu Ile Leu Pro Lys Pro  
 305 310 315 320

Glu Lys Ser Leu Ala Lys Val Glu Lys Glu Leu Thr Pro Glu Val Leu  
 325 330 335

Gln Glu Trp Leu Asp Glu Leu Glu Glu Met Met Leu Val Val His Met  
 340 345 350

Pro Arg Phe Arg Ile Glu Asp Gly Phe Ser Leu Lys Glu Gln Leu Gln  
 355 360 365

Asp Met Gly Leu Val Asp Leu Phe Ser Pro Glu Lys Ser Lys Leu Pro  
 370 375 380

Gly Ile Val Ala Glu Gly Arg Asp Asp Leu Tyr Val Ser Asp Ala Phe  
 385 390 395 400

His Lys Ala Phe Leu Glu Val Asn Glu Glu Gly Ser Glu Ala Ala Ala  
 405 410 415

Ser Thr Ala Val Val Ile Ala Gly Arg Ser Leu Asn Pro Asn Arg Val

420

425

430

Thr Phe Lys Ala Asn Arg Pro Phe Leu Val Phe Ile Arg Glu Val Pro  
 435 440 445

Leu Asn Thr Ile Ile Phe Met Gly Arg Val Ala Asn Pro Cys Val Lys  
 450 455 460

&lt;210&gt; 22

&lt;211&gt; 410

&lt;212&gt; PRT

&lt;213&gt; Gallus gallus

&lt;400&gt; 22

Met Tyr Phe Leu Gly Leu Leu Ser Leu Leu Val Leu Pro Ser Lys Ala  
 1 5 10 15

Phe Lys Thr Asn Phe Pro Asp Glu Thr Ile Ala Glu Leu Ser Val Asn  
 20 25 30

Val Tyr Asn Gln Leu Arg Ala Ala Arg Glu Asp Glu Asn Ile Leu Phe  
 35 40 45

Cys Pro Leu Ser Ile Ala Ile Ala Met Gly Met Ile Glu Leu Gly Ala  
 50 55 60

His Gly Thr Thr Leu Lys Glu Ile Arg His Ser Leu Gly Phe Asp Ser  
 65 70 75 80

Leu Lys Asn Gly Glu Glu Phe Thr Phe Leu Lys Asp Leu Ser Asp Met  
 85 90 95

Ala Thr Thr Glu Glu Ser His Tyr Val Leu Asn Met Ala Asn Ser Leu  
 100 105 110

Tyr Val Gln Asn Gly Phe His Val Ser Glu Lys Phe Leu Gln Leu Val  
 115 120 125

Lys Lys Tyr Phe Lys Ala Glu Val Glu Asn Ile Asp Phe Ser Gln Ser  
 130 135 140

Ala Ala Val Ala Thr His Ile Asn Lys Trp Val Glu Asn His Thr Asn  
 145 150 155 160

Asn Met Ile Lys Asp Phe Val Ser Ser Arg Asp Phe Ser Ala Leu Thr  
 165 170 175

His Leu Val Leu Ile Asn Ala Ile Tyr Phe Lys Gly Asn Trp Lys Ser  
180 185 190

Gln Phe Arg Pro Glu Asn Thr Arg Thr Phe Ser Phe Thr Lys Asp Asp  
195 200 205

Glu Thr Glu Val Gln Ile Pro Met Met Tyr Gln Gln Gly Glu Phe Tyr  
210 215 220

Tyr Gly Glu Phe Ser Asp Gly Ser Asn Glu Ala Gly Gly Ile Tyr Gln  
225 230 235 240

Val Leu Glu Ile Pro Tyr Glu Gly Asp Glu Ile Ser Met Met Ile Val  
245 250 255

Leu Ser Arg Gln Glu Val Pro Leu Val Thr Leu Glu Pro Leu Val Lys  
260 265 270

Ala Ser Leu Ile Asn Glu Trp Ala Asn Ser Val Lys Lys Gln Lys Val  
275 280 285

Glu Val Tyr Leu Pro Arg Phe Thr Val Glu Gln Glu Ile Asp Leu Lys  
290 295 300

Asp Val Leu Lys Gly Leu Gly Ile Thr Glu Val Phe Ser Arg Ser Ala  
305 310 315 320

Asp Leu Thr Ala Met Ser Asp Asn Lys Glu Leu Tyr Leu Ala Lys Ala  
325 330 335

Phe His Lys Ala Phe Leu Glu Val Asn Glu Glu Gly Ser Glu Ala Ala  
340 345 350

Ala Ala Ser Gly Met Ile Ala Ile Ser Arg Met Ala Val Leu Tyr Pro  
355 360 365

Gln Val Ile Val Asp His Pro Phe Phe Phe Leu Val Arg Asn Arg Arg  
370 375 380

Thr Gly Thr Val Leu Phe Met Gly Arg Val Met His Pro Glu Ala Met  
385 390 395 400

Asn Thr Ser Gly His Asp Phe Glu Glu Leu  
405 410



<210> 23  
<211> 648

<212> PRT  
<213> Mus musculus

<400> 23

Met Ser Leu Lys Trp Ser Ala Cys Trp Val Ala Leu Gly Gln Leu Leu  
1 5 10 15

Cys Ser Cys Ala Leu Ala Leu Lys Gly Gly Met Leu Phe Pro Lys Glu  
20 25 30

Ser Pro Ser Arg Glu Leu Lys Ala Leu Asp Gly Leu Trp His Phe Arg  
35 40 45

Ala Asp Leu Ser Asn Asn Arg Leu Gln Gly Phe Glu Gln Gln Trp Tyr  
50 55 60

Arg Gln Pro Leu Arg Glu Ser Gly Pro Val Leu Asp Met Pro Val Pro  
65 70 75 80

Ser Ser Phe Asn Asp Ile Thr Gln Glu Ala Ala Leu Arg Asp Phe Ile  
85 90 95

Gly Trp Val Trp Tyr Glu Arg Glu Ala Ile Leu Pro Arg Arg Trp Thr  
100 105 110

Gln Asp Thr Asp Met Arg Val Val Leu Arg Ile Asn Ser Ala His Tyr  
115 120 125

Tyr Ala Val Val Trp Val Asn Gly Ile His Val Val Glu His Glu Gly  
130 135 140

Gly His Leu Pro Phe Glu Ala Asp Ile Ser Lys Leu Val Gln Ser Gly  
145 150 155 160

Pro Leu Thr Thr Cys Arg Ile Thr Ile Ala Ile Asn Asn Thr Leu Thr  
165 170 175

Pro His Thr Leu Pro Pro Gly Thr Ile Val Tyr Lys Thr Asp Thr Ser  
180 185 190

Met Tyr Pro Lys Gly Tyr Phe Val Gln Asp Thr Ser Phe Asp Phe Phe  
195 200 205

Asn Tyr Ala Gly Leu His Arg Ser Val Val Leu Tyr Thr Thr Pro Thr

210		215		220
Thr Tyr Ile Asp Asp Ile Thr Val Ile Thr Asn Val Glu Gln Asp Ile				
225		230		235 240
Gly Leu Val Thr Tyr Trp Ile Ser Val Gln Gly Ser Glu His Phe Gln				
		245		250 255
Leu Glu Val Gln Leu Leu Asp Glu Asp Gly Lys Val Val Ala His Gly				
		260		265 270
Thr Gly Asn Gln Gly Gln Leu Gln Val Pro Ser Ala Asn Leu Trp Trp				
		275		280 285
Pro Tyr Leu Met His Glu His Pro Ala Tyr Met Tyr Ser Leu Glu Val				
		290		295 300
Lys Val Thr Thr Thr Glu Ser Val Thr Asp Tyr Tyr Thr Leu Pro Val				
305		310		315 320
Gly Ile Arg Thr Val Ala Val Thr Lys Ser Lys Phe Leu Ile Asn Gly				
		325		330 335
Lys Pro Phe Tyr Phe Gln Gly Val Asn Lys His Glu Asp Ser Asp Ile				
		340		345 350
Arg Gly Lys Gly Phe Asp Trp Pro Leu Leu Val Lys Asp Phe Asn Leu				
		355		360 365
Leu Arg Trp Leu Gly Ala Asn Ser Phe Arg Thr Ser His Tyr Pro Tyr				
		370		375 380
Ser Glu Glu Val Leu Gln Leu Cys Asp Arg Tyr Gly Ile Val Val Ile				
385		390		395 400
Asp Glu Cys Pro Gly Val Gly Ile Val Leu Pro Gln Ser Phe Gly Asn				
		405		410 415
Glu Ser Leu Arg His His Leu Glu Val Met Glu Glu Leu Val Arg Arg				
		420		425 430
Asp Lys Asn His Pro Ala Val Val Met Trp Ser Val Ala Asn Glu Pro				
		435		440 445
Ser Ser Ala Leu Lys Pro Ala Ala Tyr Tyr Phe Lys Thr Leu Ile Thr				

450                      455                      460  
 His Thr Lys Ala Leu Asp Leu Thr Arg Pro Val Thr Phe Val Ser Asn  
 465                      470                      475                      480  
 Ala Lys Tyr Asp Ala Asp Leu Gly Ala Pro Tyr Val Asp Val Ile Cys  
                     485                      490                      495  
 Val Asn Ser Tyr Phe Ser Trp Tyr His Asp Tyr Gly His Leu Glu Val  
                     500                      505                      510  
 Ile Gln Pro Gln Leu Asn Ser Gln Phe Glu Asn Trp Tyr Lys Thr His  
                     515                      520                      525  
 Gln Lys Pro Ile Ile Gln Ser Glu Tyr Gly Ala Asp Ala Ile Pro Gly  
                     530                      535                      540  
 Ile His Glu Asp Pro Pro Arg Met Phe Ser Glu Glu Tyr Gln Lys Ala  
 545                      550                      555                      560  
 Val Leu Glu Asn Tyr His Ser Val Leu Asp Gln Lys Arg Lys Glu Tyr  
                     565                      570                      575  
 Val Val Gly Glu Leu Ile Trp Asn Phe Ala Asp Phe Met Thr Asn Gln  
                     580                      585                      590  
 Ser Pro Leu Arg Val Ile Gly Asn Lys Lys Gly Ile Phe Thr Arg Gln  
                     595                      600                      605  
 Arg Gln Pro Lys Thr Ser Ala Phe Ile Leu Arg Glu Arg Tyr Trp Arg  
                     610                      615                      620  
 Ile Ala Asn Glu Thr Gly Gly His Gly Ser Gly Pro Arg Thr Gln Cys  
 625                      630                      635                      640  
 Phe Gly Ser Arg Pro Phe Thr Phe  
                     645  
 <210> 24  
 <211> 415  
 <212> PRT  
 <213> Homo sapiens  
 <400> 24  
 Met Glu Asp Leu Cys Val Ala Asn Thr Leu Phe Ala Leu Asn Leu Phe  
 1                      5                      10                      15

Lys His Leu Ala Lys Ala Ser Pro Thr Gln Asn Leu Phe Leu Ser Pro  
 20 25 30  
 Trp Ser Ile Ser Ser Thr Met Ala Met Val Tyr Met Gly Ser Arg Gly  
 35 40 45  
 Ser Thr Glu Asp Gln Met Ala Lys Val Leu Gln Phe Asn Glu Val Gly  
 50 55 60  
 Ala Asn Ala Val Thr Pro Met Thr Pro Glu Asn Phe Thr Ser Cys Gly  
 65 70 75 80  
 Phe Met Gln Gln Ile Gln Lys Gly Ser Tyr Pro Asp Ala Ile Leu Gln  
 85 90 95  
 Ala Gln Ala Ala Asp Lys Ile His Ser Ser Phe Arg Ser Leu Ser Ser  
 100 105 110  
 Ala Ile Asn Ala Ser Thr Gly Asn Tyr Leu Leu Glu Ser Val Asn Lys  
 115 120 125  
 Leu Phe Gly Glu Lys Ser Ala Ser Phe Arg Glu Glu Tyr Ile Arg Leu  
 130 135 140  
 Cys Gln Lys Tyr Tyr Ser Ser Glu Pro Gln Ala Val Asp Phe Leu Glu  
 145 150 155 160  
 Cys Ala Glu Glu Ala Arg Lys Lys Ile Asn Ser Trp Val Lys Thr Gln  
 165 170 175  
 Thr Lys Gly Lys Ile Pro Asn Leu Leu Pro Glu Gly Ser Val Asp Gly  
 180 185 190  
 Asp Thr Arg Met Val Leu Val Asn Ala Val Tyr Phe Lys Gly Lys Trp  
 195 200 205  
 Lys Thr Pro Phe Glu Lys Lys Leu Asn Gly Leu Tyr Pro Phe Arg Val  
 210 215 220  
 Asn Ser Ala Gln Arg Thr Pro Val Gln Met Met Tyr Leu Arg Glu Lys  
 225 230 235 240  
 Leu Asn Ile Gly Tyr Ile Glu Asp Leu Lys Ala Gln Ile Leu Glu Leu  
 245 250 255

Pro Tyr Ala Gly Asp Val Ser Met Phe Leu Leu Leu Pro Asp Glu Ile  
260 265 270

Ala Asp Val Ser Thr Gly Leu Glu Leu Leu Glu Ser Glu Ile Thr Tyr  
275 280 285

Asp Lys Leu Asn Lys Trp Thr Ser Lys Asp Lys Met Ala Glu Asp Glu  
290 295 300

Val Glu Val Tyr Ile Pro Gln Phe Lys Leu Glu Glu His Tyr Glu Leu  
305 310 315 320

Arg Ser Ile Leu Arg Ser Met Gly Met Glu Asp Ala Phe Asn Lys Gly  
325 330 335

Arg Ala Asn Phe Ser Gly Met Ser Glu Arg Asn Asp Leu Phe Leu Ser  
340 345 350

Glu Val Phe His Gln Ala Met Val Asp Val Asn Glu Glu Gly Thr Glu  
355 360 365

Ala Ala Ala Gly Thr Gly Gly Val Met Thr Gly Arg Thr Gly His Gly  
370 375 380

Gly Pro Gln Phe Val Ala Asp His Pro Phe Leu Phe Leu Ile Met His  
385 390 395 400

Lys Ile Thr Asn Cys Ile Leu Phe Phe Gly Arg Phe Ser Ser Pro  
405 410 415

<210> 25  
<211> 413  
<212> PRT  
<213> Oryctolagus cuniculus  
<400> 25

Met Pro Pro Ser Val Ser Arg Ala Leu Leu Leu Leu Ala Gly Leu Gly  
1 5 10 15

Cys Leu Leu Pro Gly Phe Leu Ala Asp Glu Ala Gln Glu Thr Ala Val  
20 25 30

Ser Ser His Glu Gln Asp His Pro Ala Cys His Arg Ile Ala Pro Ser  
35 40 45

Leu Ala Glu Phe Ala Leu Ser Leu Tyr Arg Glu Val Ala His Glu Ser  
50 55 60

Asn Thr Thr Asn Ile Phe Phe Ser Pro Val Ser Ile Ala Leu Ala Phe  
 65 70 75 80  
 Ala Met Leu Ser Leu Gly Ala Lys Gly Asp Thr His Thr Gln Val Leu  
 85 90 95  
 Glu Gly Leu Lys Phe Asn Leu Thr Glu Thr Ala Glu Ala Gln Ile His  
 100 105 110  
 Asp Gly Phe Arg His Leu Leu His Thr Val Asn Arg Pro Asp Ser Glu  
 115 120 125  
 Leu Gln Leu Ala Ala Gly Asn Ala Leu Val Val His Glu Asn Leu Lys  
 130 135 140  
 Leu Gln His Lys Phe Leu Glu Asp Ala Lys Asn Leu Tyr Gln Ser Glu  
 145 150 155 160  
 Ala Phe Leu Val Asp Phe Arg Asp Pro Glu Gln Ala Lys Thr Lys Ile  
 165 170 175  
 Asn Ser His Val Glu Lys Gly Thr Arg Gly Lys Ile Val Asp Leu Val  
 180 185 190  
 Gln Glu Leu Asp Ala Arg Thr Leu Leu Ala Leu Val Asn Tyr Val Phe  
 195 200 205  
 Phe Lys Gly Lys Trp Glu Lys Pro Phe Glu Pro Glu Asn Thr Lys Glu  
 210 215 220  
 Glu Asp Phe His Val Asp Ala Thr Thr Thr Val Arg Val Pro Met Met  
 225 230 235 240  
 Ser Arg Leu Gly Met Tyr Val Met Phe His Cys Ser Thr Leu Ala Ser  
 245 250 255  
 Thr Val Leu Arg Met Asp Tyr Lys Gly Asn Ala Thr Ala Leu Phe Leu  
 260 265 270  
 Leu Pro Asp Glu Gly Lys Leu Gln His Leu Glu Asp Thr Leu Thr Thr  
 275 280 285  
 Glu Leu Ile Ala Lys Phe Leu Ala Lys Ser Ser Leu Arg Ser Val Thr  
 290 295 300

Val Arg Phe Pro Lys Leu Ser Ile Ser Gly Thr Tyr Asp Leu Lys Pro  
305 310 315 320

Leu Leu Gly Lys Leu Gly Ile Thr Gln Val Phe Ser Asn Asn Ala Asp  
325 330 335

Leu Ser Gly Ile Thr Glu Gln Glu Pro Leu Lys Val Ser Gln Ala Leu  
340 345 350

His Lys Ala Val Leu Thr Ile Asp Glu Arg Gly Thr Glu Ala Ala Gly  
355 360 365

Ala Ser Phe Val Glu Leu Ile Pro Glu Ser Val Pro Asp Ser Ile Thr  
370 375 380

Leu Asp Arg Pro Phe Leu Phe Val Ile Tyr Ser His Glu Ile Lys Ser  
385 390 395 400

Pro Leu Phe Val Gly Lys Val Val Asp Pro Thr Gln His  
405 410

<210> 26  
<211> 397  
<212> PRT  
<213> Ratttus norvegicus

<400> 26

Met Asn Trp His Phe Pro Phe Phe Ile Leu Thr Thr Val Thr Leu Ser  
1 5 10 15

Ser Val Tyr Ser Gln Leu Asn Ser Leu Ser Leu Glu Glu Leu Gly Ser  
20 25 30

Asp Thr Gly Ile Gln Val Phe Asn Gln Ile Ile Lys Ser Gln Pro His  
35 40 45

Glu Asn Val Val Ile Ser Pro His Gly Ile Ala Ser Ile Leu Gly Met  
50 55 60

Leu Gln Leu Gly Ala Asp Gly Arg Thr Lys Lys Gln Leu Ser Thr Val  
65 70 75 80

Met Arg Tyr Asn Val Asn Gly Val Gly Lys Val Leu Lys Lys Ile Asn  
85 90 95

Lys Ala Ile Val Ser Lys Lys Asn Lys Asp Ile Val Thr Val Ala Asn

100					105					110					
Ala	Val	Phe	Val	Arg	Asn	Gly	Phe	Lys	Val	Glu	Val	Pro	Phe	Ala	Ala
		115					120					125			
Arg	Asn	Lys	Glu	Val	Phe	Gln	Cys	Glu	Val	Gln	Ser	Val	Asn	Phe	Gln
	130					135					140				
Asp	Pro	Ala	Ser	Ala	Cys	Asp	Ala	Ile	Asn	Phe	Trp	Val	Lys	Asn	Glu
145					150					155					160
Thr	Arg	Gly	Met	Ile	Asp	Asn	Leu	Leu	Ser	Pro	Asn	Leu	Ile	Asp	Ser
				165					170					175	
Ala	Leu	Thr	Lys	Leu	Val	Leu	Val	Asn	Ala	Val	Tyr	Phe	Lys	Gly	Leu
			180					185					190		
Trp	Lys	Ser	Arg	Phe	Gln	Pro	Glu	Asn	Thr	Lys	Lys	Arg	Thr	Phe	Val
		195					200					205			
Ala	Gly	Asp	Gly	Lys	Ser	Tyr	Gln	Val	Pro	Met	Leu	Ala	Gln	Leu	Ser
	210					215					220				
Val	Phe	Arg	Ser	Gly	Ser	Thr	Lys	Thr	Pro	Asn	Gly	Leu	Trp	Tyr	Asn
225					230					235					240
Phe	Ile	Glu	Leu	Pro	Tyr	His	Gly	Glu	Ser	Ile	Ser	Met	Leu	Ile	Ala
				245					250					255	
Leu	Pro	Thr	Glu	Ser	Ser	Thr	Pro	Leu	Ser	Ala	Ile	Ile	Pro	His	Ile
			260					265					270		
Ser	Thr	Lys	Thr	Ile	Asn	Ser	Trp	Met	Asn	Thr	Met	Val	Pro	Lys	Arg
		275					280					285			
Met	Gln	Leu	Val	Leu	Pro	Lys	Phe	Thr	Ala	Leu	Ala	Gln	Thr	Asp	Leu
	290					295					300				
Lys	Glu	Pro	Leu	Lys	Ala	Leu	Gly	Ile	Thr	Glu	Met	Phe	Glu	Pro	Ser
305					310					315					320
Lys	Ala	Asn	Phe	Ala	Lys	Ile	Thr	Arg	Ser	Glu	Ser	Leu	His	Val	Ser
				325					330					335	
His	Ile	Leu	Gln	Lys	Ala	Lys	Ile	Glu	Val	Ser	Glu	Asp	Gly	Thr	Lys



340

345

350

Ala Ala Val Val Thr Thr Ala Ile Leu Ile Ala Arg Ser Ser Pro Pro  
 355 360 365

Trp Phe Ile Val Asp Arg Pro Phe Leu Phe Cys Ile Arg His Asn Pro  
 370 375 380

Thr Gly Ala Ile Leu Phe Leu Gly Gln Val Asn Lys Pro  
 385 390 395

<210> 27  
 <211> 417  
 <212> PRT  
 <213> Sus scrofa

<400> 27

Met Ser His Gly Lys Met Pro Leu Val Leu Ser Leu Val Leu Ile Leu  
 1 5 10 15

Cys Gly Leu Phe Asn Ser Ile Ser Cys Glu Lys Gln Gln Thr Ser Pro  
 20 25 30

Lys Thr Ile Thr Pro Val Ser Phe Lys Arg Ile Ala Ala Leu Ser Gln  
 35 40 45

Lys Met Glu Ala Asn Tyr Lys Ala Phe Ala Gln Glu Leu Phe Lys Thr  
 50 55 60

Leu Leu Ile Glu Asp Pro Arg Lys Asn Met Ile Phe Ser Pro Val Ser  
 65 70 75 80

Ile Ser Ile Ser Leu Ala Thr Leu Ser Leu Gly Leu Arg Ser Ala Thr  
 85 90 95

Arg Thr Asn Ala Ile Asp Val Leu Asp Val Ala Leu Lys Asn Leu Ala  
 100 105 110

Val Met Leu Met Ala Gln Ala Pro Thr Ala Leu Leu Glu Ile Val His  
 115 120 125

Glu Leu Val Asn Arg Thr Ala Lys His Gln Asp Ile Leu Ile Asp Arg  
 130 135 140

Thr Glu Met Asn Gln Met Phe Leu Lys Glu Ile Asp Arg Tyr Ile Lys  
 145 150 155 160

Met Asp Ile Gln Met Ile Asp Phe Lys Asp Lys Glu Lys Thr Lys Lys  
 165 170 175

Ala Ile Asn Gln Phe Val Ala Asp Lys Ile Asp Lys Lys Ala Lys Asn  
 180 185 190

Leu Ile Thr His Leu Asp Pro Gln Thr Leu Leu Cys Leu Val Asn Tyr  
 195 200 205

Ile Phe Phe Lys Gly Ile Leu Glu Arg Ala Phe Gln Thr Asn Leu Thr  
 210 215 220

Lys Lys Glu Asp Phe Phe Val Asn Glu Lys Thr Ile Val Gln Val Asp  
 225 230 235 240

Met Met Arg Lys Thr Glu Arg Met Ile Tyr Ser Arg Ser Glu Glu Leu  
 245 250 255

Leu Ala Thr Met Val Lys Ile Pro Cys Lys Glu Asn Ala Ser Ile Ile  
 260 265 270

Leu Val Leu Pro Asp Thr Gly Lys Phe Asn Phe Ala Leu Lys Glu Met  
 275 280 285

Ala Ala Lys Arg Ala Arg Leu Gln Lys Thr Asn Asp Phe Arg Leu Val  
 290 295 300

His Leu Val Val Pro Lys Ile Lys Asp Asn Leu Gln Asp Arg Phe Lys  
 305 310 315 320

His Leu Leu Pro Lys Ile Gly Ile Asn Asp Ile Phe Thr Thr Lys Ala  
 325 330 335

Val Thr Trp Asn Thr Thr Gly Thr Ser Thr Ile Leu Glu Ala Val His  
 340 345 350

His Ala Val Ile Glu Val Lys Glu Asp Gly Leu Thr Lys Asn Ala Ala  
 355 360 365

Lys Asp Lys Asp Phe Trp Lys Val Pro Val Asp Lys Lys Glu Val Pro  
 370 375 380

Val Val Val Lys Phe Asp Arg Pro Phe Phe Leu Phe Val Glu Asp Glu  
 385 390 395 400

Ile Thr Arg Arg Asp Leu Phe Val Ala Lys Val Phe Asn Pro Lys Thr  
405 410 415

Glu

<210> 28  
<211> 402  
<212> PRT  
<213> Homo sapiens

<400> 28

Met Gln Met Ser Pro Ala Leu Thr Cys Leu Val Leu Gly Leu Ala Leu  
1 5 10 15

Val Phe Gly Glu Gly Ser Ala Val His His Pro Pro Ser Tyr Val Ala  
20 25 30

His Leu Ala Ser Asp Phe Gly Val Arg Val Phe Gln Gln Val Ala Gln  
35 40 45

Ala Ser Lys Asp Arg Asn Val Val Phe Ser Pro Tyr Gly Val Ala Ser  
50 55 60

Val Leu Ala Met Leu Gln Leu Thr Thr Gly Gly Glu Thr Gln Gln Gln  
65 70 75 80

Ile Gln Ala Ala Met Gly Phe Lys Ile Asp Asp Lys Gly Met Ala Pro  
85 90 95

Ala Leu Arg His Leu Tyr Lys Glu Leu Met Gly Pro Trp Asn Lys Asp  
100 105 110

Glu Ile Ser Thr Thr Asp Ala Ile Phe Val Gln Arg Asp Leu Lys Leu  
115 120 125

Val Gln Gly Phe Met Pro His Phe Phe Arg Leu Phe Arg Ser Thr Val  
130 135 140

Lys Gln Val Asp Phe Ser Glu Val Glu Arg Ala Arg Phe Ile Ile Asn  
145 150 155 160

Asp Trp Val Lys Thr His Thr Lys Gly Met Ile Ser Asn Leu Leu Gly  
165 170 175

Lys Gly Ala Val Asp Gln Leu Thr Arg Leu Val Leu Val Asn Ala Leu  
180 185 190

Tyr Phe Asn Gly Gln Trp Lys Thr Pro Phe Pro Asp Ser Ser Thr His  
195 200 205

Arg Arg Leu Phe His Lys Ser Asp Gly Ser Thr Val Ser Val Pro Met  
210 215 220

Met Ala Gln Thr Asn Lys Phe Asn Tyr Thr Glu Phe Thr Thr Pro Asp  
225 230 235 240

Gly His Tyr Tyr Asp Ile Leu Glu Leu Pro Tyr His Gly Asp Thr Leu  
245 250 255

Ser Met Phe Ile Ala Ala Pro Tyr Glu Lys Glu Val Pro Leu Ser Ala  
260 265 270

Leu Thr Asn Ile Leu Ser Ala Gln Leu Ile Ser His Trp Lys Gly Asn  
275 280 285

Met Thr Arg Leu Pro Arg Leu Leu Val Leu Pro Lys Phe Ser Leu Glu  
290 295 300

Thr Glu Val Asp Leu Arg Lys Pro Leu Glu Asn Leu Gly Met Thr Asp  
305 310 315 320

Met Phe Arg Gln Phe Gln Ala Asp Phe Thr Ser Leu Ser Asp Gln Glu  
325 330 335

Pro Leu His Val Ala Gln Ala Leu Gln Lys Val Lys Ile Glu Val Asn  
340 345 350

Glu Ser Gly Thr Val Ala Ser Ser Ser Thr Ala Val Ile Val Ser Ala  
355 360 365

Arg Met Ala Pro Glu Glu Ile Ile Met Asp Arg Pro Phe Leu Phe Val  
370 375 380

Val Arg His Asn Pro Thr Gly Thr Val Leu Phe Met Gly Gln Val Met  
385 390 395 400

Glu Pro

<210> 29  
<211> 379

<212> PRT

<213> Equus caballus

<400> 29

Met Glu Gln Leu Ser Thr Ala Asn Thr His Phe Ala Val Asp Leu Phe  
1 5 10 15

Arg Ala Leu Asn Glu Ser Asp Pro Thr Gly Asn Ile Phe Ile Ser Pro  
20 25 30

Leu Ser Ile Ser Ser Ala Leu Ala Met Ile Phe Leu Gly Thr Arg Gly  
35 40 45

Asn Thr Ala Ala Gln Val Ser Lys Ala Leu Tyr Phe Asp Thr Val Glu  
50 55 60

Asp Ile His Ser Arg Phe Gln Ser Leu Asn Ala Asp Ile Asn Lys Pro  
65 70 75 80

Gly Ala Pro Tyr Ile Leu Lys Leu Ala Asn Arg Leu Tyr Gly Glu Lys  
85 90 95

Thr Tyr Asn Phe Leu Ala Asp Phe Leu Ala Ser Thr Gln Lys Met Tyr  
100 105 110

Gly Ala Glu Leu Ala Ser Val Asp Phe Gln Gln Ala Pro Glu Asp Ala  
115 120 125

Arg Lys Glu Ile Asn Glu Trp Val Lys Gly Gln Thr Glu Gly Lys Ile  
130 135 140

Pro Glu Leu Leu Val Lys Gly Met Val Asp Asn Met Thr Lys Leu Val  
145 150 155 160

Leu Val Asn Ala Ile Tyr Phe Lys Gly Asn Trp Gln Glu Lys Phe Met  
165 170 175

Lys Glu Ala Thr Arg Asp Ala Pro Phe Arg Leu Asn Lys Lys Asp Thr  
180 185 190

Lys Thr Val Lys Met Met Tyr Gln Lys Lys Lys Phe Pro Tyr Asn Tyr  
195 200 205

Ile Glu Asp Leu Lys Cys Arg Val Leu Glu Leu Pro Tyr Gln Gly Lys  
210 215 220

Glu Leu Ser Met Ile Ile Leu Leu Pro Asp Asp Ile Glu Asp Glu Ser  
225 230 235 240

Thr Gly Leu Glu Lys Ile Glu Lys Gln Leu Thr Leu Glu Lys Leu Arg  
245 250 255

Glu Trp Thr Lys Pro Glu Asn Leu Tyr Leu Ala Glu Val Asn Val His  
260 265 270

Leu Pro Arg Phe Lys Leu Glu Glu Ser Tyr Asp Leu Thr Ser His Leu  
275 280 285

Ala Arg Leu Gly Val Gln Asp Leu Phe Asn Arg Gly Lys Ala Asp Leu  
290 295 300

Ser Gly Met Ser Gly Ala Arg Asp Leu Phe Val Ser Lys Ile Ile His  
305 310 315 320

Lys Ser Phe Val Asp Leu Asn Glu Glu Gly Thr Glu Ala Ala Ala Ala  
325 330 335

Thr Ala Gly Thr Ile Met Leu Ala Met Leu Met Pro Glu Glu Asn Phe  
340 345 350

Asn Ala Asp His Pro Phe Ile Phe Phe Ile Arg His Asn Pro Ser Ala  
355 360 365

Asn Ile Leu Phe Leu Gly Arg Phe Ser Ser Pro  
370 375

<210> 30  
<211> 417  
<212> PRT  
<213> Homo sapiens

<400> 30

Met Arg Ser Leu Leu Leu Gly Thr Leu Cys Leu Leu Ala Val Ala Leu  
1 5 10 15

Ala Ala Glu Val Lys Lys Pro Val Glu Ala Ala Ala Pro Gly Thr Ala  
20 25 30

Glu Lys Leu Ser Ser Lys Ala Thr Thr Leu Ala Glu Pro Ser Thr Gly  
35 40 45

Leu Ala Phe Ser Leu Tyr Gln Ala Met Ala Lys Asp Gln Ala Val Glu  
50 55 60

Asn Ile Leu Val Ser Pro Val Val Val Ala Ser Ser Leu Gly Leu Val  
 65 70 75 80

Ser Leu Gly Gly Lys Ala Thr Thr Ala Ser Gln Ala Lys Ala Val Leu  
 85 90 95

Ser Ala Glu Gln Leu Arg Asp Glu Glu Val His Ala Gly Leu Gly Glu  
 100 105 110

Leu Leu Arg Ser Leu Ser Asn Ser Thr Ala Arg Asn Val Thr Trp Lys  
 115 120 125

Leu Gly Ser Arg Leu Tyr Gly Pro Ser Ser Val Ser Phe Ala Asp Asp  
 130 135 140

Phe Val Arg Ser Ser Lys Gln His Tyr Asn Cys Glu His Ser Lys Ile  
 145 150 155 160

Asn Phe Pro Asp Lys Arg Ser Ala Leu Gln Ser Ile Asn Glu Trp Ala  
 165 170 175

Ala Gln Thr Thr Asp Gly Lys Leu Pro Glu Val Thr Lys Asp Val Glu  
 180 185 190

Arg Thr Asp Gly Ala Leu Leu Val Asn Ala Met Phe Phe Lys Pro His  
 195 200 205

Trp Asp Glu Lys Phe His His Lys Met Val Asp Asn Arg Gly Phe Met  
 210 215 220

Val Thr Arg Ser Tyr Thr Val Gly Val Thr Met Met His Arg Thr Gly  
 225 230 235 240

Leu Tyr Asn Tyr Tyr Asp Asp Glu Lys Glu Lys Leu Gln Leu Val Glu  
 245 250 255

Met Pro Leu Ala His Lys Leu Ser Ser Leu Ile Ile Leu Met Pro His  
 260 265 270

His Val Glu Pro Leu Glu Arg Leu Glu Lys Leu Leu Thr Lys Glu Gln  
 275 280 285

Leu Lys Ile Trp Met Gly Lys Met Gln Lys Lys Ala Val Ala Ile Ser  
 290 295 300

Leu Pro Lys Gly Val Val Glu Val Thr His Asp Leu Gln Lys His Leu  
 305 310 315 320

Ala Gly Leu Gly Leu Thr Glu Ala Ile Asp Lys Asn Lys Ala Asp Leu  
 325 330 335

Ser Arg Met Ser Gly Lys Lys Asp Leu Tyr Leu Ala Ser Val Phe His  
 340 345 350

Ala Thr Ala Phe Glu Leu Asp Thr Asp Gly Asn Pro Phe Asp Gln Asp  
 355 360 365

Ile Tyr Gly Arg Glu Glu Leu Arg Ser Pro Lys Leu Phe Tyr Ala Asp  
 370 375 380

His Pro Phe Ile Phe Leu Val Arg Asp Thr Gln Ser Gly Ser Leu Leu  
 385 390 395 400

Phe Ile Gly Arg Leu Val Arg Leu Lys Gly Asp Lys Met Arg Asp Glu  
 405 410 415

Leu

<210> 31  
 <211> 418  
 <212> PRT  
 <213> Homo sapiens

<400> 31

Met Arg Ser Leu Leu Leu Leu Ser Ala Phe Cys Leu Leu Glu Ala Ala  
 1 5 10 15

Leu Ala Ala Glu Val Lys Lys Pro Ala Ala Ala Ala Ala Pro Gly Thr  
 20 25 30

Ala Glu Lys Leu Ser Pro Lys Ala Ala Thr Leu Ala Glu Arg Ser Ala  
 35 40 45

Gly Leu Ala Phe Ser Leu Tyr Gln Ala Met Ala Lys Asp Gln Ala Val  
 50 55 60

Glu Asn Ile Leu Val Ser Pro Val Val Val Ala Ser Ser Leu Gly Leu  
 65 70 75 80



Val Ser Leu Gly Gly Lys Ala Thr Thr Ala Ser Gln Ala Lys Ala Val  
                             85                            90                            95

Leu Ser Ala Glu Gln Leu Arg Asp Glu Glu Val His Ala Gly Leu Gly  
                             100                            105                            110

Glu Leu Leu Arg Ser Leu Ser Asn Ser Thr Ala Arg Asn Val Thr Trp  
                             115                            120                            125

Lys Leu Gly Ser Arg Leu Tyr Gly Pro Ser Ser Val Ser Phe Ala Asp  
                             130                            135                            140

Asp Phe Val Arg Ser Ser Lys Gln His Tyr Asn Cys Glu His Ser Lys  
                             145                            150                            155                            160

Ile Asn Phe Arg Asp Lys Arg Arg Pro Leu Gln Ser Ile Asn Glu Trp  
                             165                            170                            175

Ala Ala Gln Thr Thr Asp Gly Lys Leu Pro Glu Val Thr Lys Asp Val  
                             180                            185                            190

Glu Arg Thr Asp Gly Ala Leu Leu Val Asn Ala Met Phe Phe Lys Pro  
                             195                            200                            205

His Trp Asp Glu Lys Phe His His Lys Met Val Asp Asn Arg Gly Phe  
                             210                            215                            220

Met Val Thr Arg Ser Tyr Thr Val Gly Val Met Met Met His Arg Thr  
                             225                            230                            235                            240

Gly Leu Tyr Asn Tyr Tyr Asp Asp Glu Lys Glu Lys Leu Gln Ile Val  
                             245                            250                            255

Glu Met Pro Leu Ala His Lys Leu Ser Ser Leu Ile Ile Leu Met Pro  
                             260                            265                            270

His His Val Glu Pro Leu Glu Arg Leu Glu Lys Leu Leu Thr Lys Glu  
                             275                            280                            285

Gln Leu Lys Ile Trp Met Gly Lys Met Gln Lys Lys Ala Val Ala Ile  
                             290                            295                            300

Ser Leu Pro Lys Gly Val Val Glu Val Thr His Asp Leu Gln Lys His  
                             305                            310                            315                            320

Leu Ala Gly Leu Gly Leu Thr Glu Ala Ile Asp Lys Asn Lys Ala Asp

325

330

335

Leu Ser Arg Met Ser Gly Lys Lys Asp Leu Tyr Leu Ala Ser Val Phe  
 340 345 350

His Ala Thr Ala Phe Glu Leu Asp Thr Asp Gly Asn Pro Phe Asp Gln  
 355 360 365

Asp Ile Tyr Gly Arg Glu Glu Leu Arg Ser Pro Lys Leu Phe Tyr Ala  
 370 375 380

Asp His Pro Phe Ile Phe Leu Val Arg Asp Thr Gln Ser Gly Ser Leu  
 385 390 395 400

Leu Phe Ile Gly Arg Leu Val Arg Pro Lys Gly Asp Lys Met Arg Asp  
 405 410 415

Glu Leu

<210> 32  
 <211> 476  
 <212> PRT  
 <213> Ovis aries

<400> 32

Met Ala Pro Ala Gly Leu Ser Leu Gly Ala Thr Ile Leu Cys Leu Leu  
 1 5 10 15

Ala Trp Ala Gly Leu Ala Ala Gly Asp Arg Val Tyr Ile His Pro Phe  
 20 25 30

His Leu Leu Val His Ser Lys Ser Asn Cys Asp Gln Leu Glu Lys Pro  
 35 40 45

Ser Val Glu Thr Pro Ala Asp Pro Thr Leu Thr Pro Val Pro Ile Gln  
 50 55 60

Thr Lys Ser Ser Pro Val Asp Glu Glu Ala Leu Trp Glu Gln Leu Val  
 65 70 75 80

Arg Ala Thr Glu Lys Leu Glu Ala Glu Asp Arg Leu Arg Ala Ser Glu  
 85 90 95

Val Gly Leu Leu Leu Asn Phe Met Gly Phe His Val Tyr Lys Thr Leu  
 100 105 110

Ser Glu Thr Trp Ser Val Ala Ser Gly Leu Val Phe Ser Pro Val Ala  
 115 120 125

Leu Phe Ser Thr Leu Thr Ser Phe Tyr Thr Gly Ala Leu Asp Pro Thr  
 130 135 140

Ala Ser Arg Leu Gln Ala Phe Leu Gly Val Pro Gly Glu Gly Gln Gly  
 145 150 155 160

Cys Thr Ser Arg Leu Asp Gly Arg Lys Val Leu Ser Ser Leu Gln Thr  
 165 170 175

Ile Gln Gly Leu Leu Val Ala Pro Gly Gly Ala Ser Ser Gln Ala Arg  
 180 185 190

Leu Leu Leu Ser Thr Val Val Gly Leu Phe Thr Ala Pro Gly Leu His  
 195 200 205

Leu Lys Gln Pro Phe Val Gln Gly Leu Ser Ser Phe Ala Pro Ile Thr  
 210 215 220

Leu Pro Arg Ser Leu Asp Leu Ser Thr Asp Pro Asn Leu Ala Ala Glu  
 225 230 235 240

Lys Ile Asn Arg Phe Met His Ser Ala Thr Gly Trp Asn Met Gly Arg  
 245 250 255

Pro Leu Ala Ala Ala Ser Pro Asp Ser Thr Leu Leu Phe Asn Ala Tyr  
 260 265 270

Val His Phe Gln Gly Lys Met Lys Gly Phe Ser Leu Leu Pro Gly Leu  
 275 280 285

Thr Glu Phe Trp Val Asp Asn Thr Thr Ser Val Pro Val Pro Met Leu  
 290 295 300

Ser Gly Ser Gly Thr Phe His Tyr Trp Ser Asp Asn Gln Asn His Leu  
 305 310 315 320

Ser Met Thr Arg Val Pro Leu Ser Ala Asn Gly Tyr Leu Leu Leu Ile  
 325 330 335

Gln Pro His His Thr Leu Asp Leu Arg Lys Val Glu Ala Leu Ile Phe  
 340 345 350

Gln His Asn Phe Leu Thr Arg Met Lys Asn Leu Ser Pro Arg Ala Ile  
 355 360 365

His Leu Thr Val Pro Gln Leu Thr Leu Lys Ala Ser Tyr Asp Leu Gln  
 370 375 380

Asp Leu Leu Ala Gln Ala Lys Leu Pro Thr Leu Leu Gly Ala Glu Ala  
 385 390 395 400

Asn Leu Gly Lys Ile Ser Asp Ala Asn Leu Arg Val Gly Lys Val Leu  
 405 410 415

Asn Ser Val Leu Phe Glu Leu Lys Ala Asp Gly Glu Gln Ala Pro Glu  
 420 425 430

Ser Val Pro Gln Pro Ala Gly Pro Glu Ala Leu Glu Val Thr Leu Asn  
 435 440 445

Ser Pro Phe Leu Leu Ala Val Leu Glu Arg Ser Ser Gly Ala Leu His  
 450 455 460

Phe Leu Gly Arg Val Ser Arg Pro Leu Ser Ala Glu  
 465 470 475

<210> 33  
 <211> 397  
 <212> PRT  
 <213> Mus musculus

<400> 33

Met Asn Trp His Phe Pro Phe Phe Ile Leu Thr Thr Val Thr Leu Tyr  
 1 5 10 15

Ser Val His Ser Gln Phe Asn Ser Leu Ser Leu Glu Glu Leu Gly Ser  
 20 25 30

Asn Thr Gly Ile Gln Val Phe Asn Gln Ile Ile Lys Ser Arg Pro His  
 35 40 45

Glu Asn Val Val Val Ser Pro His Gly Ile Ala Ser Ile Leu Gly Met  
 50 55 60

Leu Gln Leu Gly Ala Asp Gly Lys Thr Lys Lys Gln Leu Ser Thr Val  
 65 70 75 80

Met Arg Tyr Asn Val Asn Gly Val Gly Lys Val Leu Lys Lys Ile Asn

85

90

95

Lys Ala Ile Val Ser Lys Lys Asn Lys Asp Ile Val Thr Val Ala Asn  
100 105 110

Ala Val Phe Leu Arg Asn Gly Phe Lys Met Glu Val Pro Phe Ala Val  
115 120 125

Arg Asn Lys Asp Val Phe Gln Cys Glu Val Gln Asn Val Asn Phe Gln  
130 135 140

Asp Pro Ala Ser Ala Ser Glu Ser Ile Asn Phe Trp Val Lys Asn Glu  
145 150 155 160

Thr Arg Gly Met Ile Asp Asn Leu Leu Ser Pro Asn Leu Ile Asp Gly  
165 170 175

Ala Leu Thr Arg Leu Val Leu Val Asn Ala Val Tyr Phe Lys Gly Leu  
180 185 190

Trp Lys Ser Arg Phe Gln Pro Glu Ser Thr Lys Lys Arg Thr Phe Val  
195 200 205

Ala Gly Asp Gly Lys Ser Tyr Gln Val Pro Met Leu Ala Gln Leu Ser  
210 215 220

Val Phe Arg Ser Gly Ser Thr Arg Thr Pro Asn Gly Leu Trp Tyr Asn  
225 230 235 240

Phe Ile Glu Leu Pro Tyr His Gly Glu Ser Ile Ser Met Leu Ile Ala  
245 250 255

Leu Pro Thr Glu Ser Ser Thr Pro Leu Ser Ala Ile Ile Pro His Ile  
260 265 270

Thr Thr Lys Thr Ile Asp Ser Trp Met Asn Thr Met Val Pro Lys Arg  
275 280 285

Met Gln Leu Val Leu Pro Lys Phe Thr Ala Val Ala Gln Thr Asp Leu  
290 295 300

Lys Glu Pro Leu Lys Ala Leu Gly Ile Thr Glu Met Phe Glu Pro Ser  
305 310 315 320

Lys Ala Asn Phe Thr Lys Ile Thr Arg Ser Glu Ser Leu His Val Ser  
325 330 335

His Ile Leu Gln Lys Ala Lys Ile Glu Val Ser Glu Asp Gly Thr Lys  
 340 345 350

Ala Ser Ala Ala Thr Thr Ala Ile Leu Ile Ala Arg Ser Ser Pro Pro  
 355 360 365

Trp Phe Ile Val Asp Arg Pro Phe Leu Phe Ser Ile Arg His Asn Pro  
 370 375 380

Thr Gly Ala Ile Leu Phe Leu Gly Gln Val Asn Lys Pro  
 385 390 395

<210> 34  
 <211> 397  
 <212> PRT  
 <213> Homo sapiens

<400> 34

Met Asp Ser Leu Ala Thr Ser Ile Asn Gln Phe Ala Leu Glu Leu Ser  
 1 5 10 15

Lys Lys Leu Ala Glu Ser Ala Gln Gly Lys Asn Ile Phe Phe Ser Ser  
 20 25 30

Trp Ser Ile Ser Thr Ser Leu Thr Ile Val Tyr Leu Gly Ala Lys Gly  
 35 40 45

Thr Thr Ala Ala Gln Met Ala Gln Val Leu Gln Phe Asn Arg Asp Gln  
 50 55 60

Gly Val Lys Cys Asp Pro Glu Ser Glu Lys Lys Arg Lys Met Glu Phe  
 65 70 75 80

Asn Leu Ser Asn Ser Glu Glu Ile His Ser Asp Phe Gln Thr Leu Ile  
 85 90 95

Ser Glu Ile Leu Lys Pro Asn Asp Asp Tyr Leu Leu Lys Thr Ala Asn  
 100 105 110

Ala Ile Tyr Gly Glu Lys Thr Tyr Ala Phe His Asn Lys Tyr Leu Glu  
 115 120 125

Asp Met Lys Thr Tyr Phe Gly Ala Glu Pro Gln Pro Val Asn Phe Val  
 130 135 140

Glu Ala Ser Asp Gln Ile Arg Lys Asp Ile Asn Ser Trp Val Glu Arg  
145 150 155 160

Gln Thr Glu Gly Lys Ile Gln Asn Leu Leu Pro Asp Asp Ser Val Asp  
165 170 175

Ser Thr Thr Arg Met Ile Leu Val Asn Ala Leu Tyr Phe Lys Gly Ile  
180 185 190

Trp Glu His Gln Phe Leu Val Gln Asn Thr Thr Glu Lys Pro Phe Arg  
195 200 205

Ile Asn Glu Thr Thr Ser Lys Pro Val Gln Met Met Phe Met Lys Lys  
210 215 220

Lys Leu His Ile Phe His Ile Glu Lys Pro Lys Ala Val Gly Leu Gln  
225 230 235 240

Leu Tyr Tyr Lys Ser Arg Asp Leu Ser Leu Leu Ile Leu Leu Pro Glu  
245 250 255

Asp Ile Asn Gly Leu Glu Gln Leu Glu Lys Ala Ile Thr Tyr Glu Lys  
260 265 270

Leu Asn Glu Trp Thr Ser Ala Asp Met Met Glu Leu Tyr Glu Val Gln  
275 280 285

Leu His Leu Pro Lys Phe Lys Leu Glu Asp Ser Tyr Asp Leu Lys Ser  
290 295 300

Thr Leu Ser Ser Met Gly Met Ser Asp Ala Phe Ser Gln Ser Lys Ala  
305 310 315 320

Asp Phe Ser Gly Met Ser Ser Ala Arg Asn Leu Phe Leu Ser Asn Val  
325 330 335

Phe His Lys Ala Phe Val Glu Ile Asn Glu Gln Gly Thr Glu Ala Ala  
340 345 350

Ala Gly Ser Gly Ser Glu Ile Asp Ile Arg Ile Arg Val Pro Ser Ile  
355 360 365

Glu Phe Asn Ala Asn His Pro Phe Leu Phe Phe Ile Arg His Asn Lys  
370 375 380

Thr Asn Thr Ile Leu Phe Tyr Gly Arg Leu Cys Ser Pro

385

390

395

<210> 35  
 <211> 376  
 <212> PRT  
 <213> Homo sapiens

<400> 35

Met Asp Val Leu Ala Glu Ala Asn Gly Thr Phe Ala Leu Asn Leu Leu  
 1 5 10 15

Lys Thr Leu Gly Lys Asp Asn Ser Lys Asn Val Phe Phe Ser Pro Met  
 20 25 30

Ser Met Ser Cys Ala Leu Ala Met Val Tyr Met Gly Ala Lys Gly Asn  
 35 40 45

Thr Ala Ala Gln Met Ala Gln Ile Leu Ser Phe Asn Lys Ser Gly Gly  
 50 55 60

Gly Gly Asp Ile His Gln Gly Phe Gln Ser Leu Leu Thr Glu Val Asn  
 65 70 75 80

Lys Thr Gly Thr Gln Tyr Leu Leu Arg Val Ala Asn Arg Leu Phe Gly  
 85 90 95

Glu Lys Ser Cys Asp Phe Leu Ser Ser Phe Arg Asp Ser Cys Gln Lys  
 100 105 110

Phe Tyr Gln Ala Glu Met Glu Glu Leu Asp Phe Ile Ser Ala Val Glu  
 115 120 125

Lys Ser Arg Lys His Ile Asn Thr Trp Val Ala Glu Lys Thr Glu Gly  
 130 135 140

Lys Ile Ala Glu Leu Leu Ser Pro Gly Ser Val Asp Pro Leu Thr Arg  
 145 150 155 160

Leu Val Leu Val Asn Ala Val Tyr Phe Arg Gly Asn Trp Asp Gly Gln  
 165 170 175

Phe Asp Lys Glu Asn Thr Glu Glu Arg Leu Phe Lys Val Ser Lys Asn  
 180 185 190

Glu Glu Lys Pro Val Gln Met Met Phe Lys Gln Ser Thr Phe Lys Lys  
 195 200 205



Thr Tyr Ile Gly Glu Ile Phe Thr Gln Ile Leu Val Leu Pro Tyr Val  
 210 215 220

Gly Lys Glu Leu Asn Met Ile Ile Met Leu Pro Asp Glu Thr Thr Asp  
 225 230 235 240

Leu Arg Thr Val Glu Lys Glu Leu Thr Tyr Glu Lys Phe Val Glu Trp  
 245 250 255

Thr Arg Leu Asp Met Met Asp Glu Glu Glu Val Glu Val Ser Leu Pro  
 260 265 270

Arg Phe Lys Leu Glu Glu Ser Tyr Asp Met Glu Ser Val Leu Arg Asn  
 275 280 285

Leu Gly Met Thr Asp Ala Phe Glu Leu Gly Lys Ala Asp Phe Ser Gly  
 290 295 300

Met Ser Gln Thr Asp Leu Ser Leu Ser Lys Val Val His Lys Ser Phe  
 305 310 315 320

Val Glu Val Asn Glu Glu Gly Thr Glu Ala Ala Ala Ala Thr Ala Ala  
 325 330 335

Ile Met Met Met Arg Cys Ala Arg Phe Val Pro Arg Phe Cys Ala Asp  
 340 345 350

His Pro Phe Leu Phe Phe Ile Gln His Arg Lys Thr Asn Gly Ile Leu  
 355 360 365

Phe Cys Gly Arg Phe Ser Ser Pro  
 370 375

<210> 36  
 <211> 406  
 <212> PRT  
 <213> Homo sapiens

<400> 36

Met Gln Leu Phe Leu Leu Leu Cys Leu Val Leu Leu Ser Pro Gln Gly  
 1 5 10 15

Ala Ser Leu His Arg His His Pro Arg Glu Met Lys Lys Arg Val Glu  
 20 25 30

Asp Leu His Val Gly Ala Thr Val Ala Pro Ser Ser Arg Arg Asp Phe

35					40					45					
Thr	Phe	Asp	Leu	Tyr	Arg	Ala	Leu	Ala	Ser	Ala	Ala	Pro	Ser	Gln	Asn
50						55					60				
Ile	Phe	Phe	Ser	Pro	Val	Ser	Ile	Ser	Met	Ser	Leu	Ala	Met	Leu	Ser
65					70					75					80
Leu	Gly	Ala	Gly	Ser	Ser	Thr	Lys	Met	Gln	Ile	Leu	Glu	Gly	Leu	Gly
				85					90					95	
Leu	Asn	Leu	Gln	Lys	Ser	Ser	Glu	Lys	Glu	Leu	His	Arg	Gly	Phe	Gln
			100					105					110		
Gln	Leu	Leu	Gln	Glu	Leu	Asn	Gln	Pro	Arg	Asp	Gly	Phe	Gln	Leu	Ser
		115					120					125			
Leu	Gly	Asn	Ala	Leu	Phe	Thr	Asp	Leu	Val	Val	Asp	Leu	Gln	Asp	Thr
	130					135					140				
Phe	Val	Ser	Ala	Met	Lys	Thr	Leu	Tyr	Leu	Ala	Asp	Thr	Phe	Pro	Thr
145					150					155					160
Asn	Phe	Arg	Asp	Ser	Ala	Gly	Ala	Met	Lys	Gln	Ile	Asn	Asp	Tyr	Val
				165					170					175	
Ala	Lys	Gln	Thr	Lys	Gly	Lys	Ile	Val	Asp	Leu	Leu	Lys	Asn	Leu	Asp
			180					185					190		
Ser	Asn	Ala	Val	Val	Ile	Met	Val	Asn	Tyr	Ile	Phe	Phe	Lys	Ala	Lys
		195					200					205			
Trp	Glu	Thr	Ser	Phe	Asn	His	Lys	Gly	Thr	Gln	Glu	Gln	Asp	Phe	Tyr
	210					215					220				
Val	Thr	Ser	Glu	Thr	Val	Val	Arg	Val	Pro	Met	Met	Ser	Arg	Glu	Asp
225					230					235				240	
Gln-Tyr	His	Tyr	Leu	Leu	Asp	Arg	Asn	Leu	Ser	Cys	Arg	Val	Val	Gly	
			245					250					255		
Val	Pro	Tyr	Gln	Gly	Asn	Ala	Thr	Ala	Leu	Phe	Ile	Leu	Pro	Ser	Glu
			260					265					270		
Gly	Lys	Met	Gln	Gln	Val	Glu	Asn	Gly	Leu	Ser	Glu	Lys	Thr	Leu	Arg
		275					280					285			

Lys Trp Leu Lys Met Phe Lys Lys Arg Gln Leu Glu Leu Tyr Leu Pro  
290 295 300

Lys Phe Ser Ile Glu Gly Ser Tyr Gln Leu Glu Lys Val Leu Pro Ser  
305 310 315 320

Leu Gly Ile Ser Asn Val Phe Thr Ser His Ala Asp Leu Ser Gly Ile  
325 330 335

Ser Asn His Ser Asn Ile Gln Val Ser Glu Met Val His Lys Ala Val  
340 345 350

Val Glu Val Asp Glu Ser Gly Thr Arg Ala Ala Ala Ala Thr Gly Thr  
355 360 365

Ile Phe Thr Phe Arg Ser Ala Arg Leu Asn Ser Gln Arg Leu Val Phe  
370 375 380

Asn Arg Pro Phe Leu Met Phe Ile Val Asp Asn Asn Ile Leu Phe Leu  
385 390 395 400

Gly Lys Val Asn Arg Pro  
405

<210> 37  
<211> 491  
<212> PRT  
<213> Homo sapiens

<400> 37

Met Ala Leu Leu Trp Gly Leu Leu Val Leu Ser Trp Ser Cys Leu Gln  
1 5 10 15

Gly Pro Cys Ser Val Phe Ser Pro Val Ser Ala Met Glu Pro Leu Gly  
20 25 30

Arg Gln Leu Thr Ser Gly Pro Asn Gln Glu Gln Val Ser Pro Leu Thr  
35 40 45

Leu Leu Lys Leu Gly Asn Gln Glu Pro Gly Gly Gln Thr Ala Leu Lys  
50 55 60

Ser Pro Pro Gly Val Cys Ser Arg Asp Pro Thr Pro Glu Gln Thr His  
65 70 75 80

Arg Leu Ala Arg Ala Met Met Ala Phe Thr Ala Asp Leu Phe Ser Leu  
 85 90 95

Val Ala Gln Thr Ser Thr Cys Pro Asn Leu Ile Leu Ser Pro Leu Ser  
 100 105 110

Val Ala Leu Ala Leu Ser His Leu Ala Leu Gly Ala Gln Asn His Thr  
 115 120 125

Leu Gln Arg Leu Gln Gln Val Leu His Ala Gly Ser Gly Pro Cys Leu  
 130 135 140

Pro His Leu Leu Ser Arg Leu Cys Gln Asp Leu Gly Pro Gly Ala Phe  
 145 150 155 160

Arg Leu Ala Ala Arg Met Tyr Leu Gln Lys Gly Phe Pro Ile Lys Glu  
 165 170 175

Asp Phe Leu Glu Gln Ser Glu Gln Leu Phe Gly Ala Lys Pro Val Ser  
 180 185 190

Leu Thr Gly Lys Gln Glu Asp Asp Leu Ala Asn Ile Asn Gln Trp Val  
 195 200 205

Lys Glu Ala Thr Glu Gly Lys Ile Gln Glu Phe Leu Ser Gly Leu Pro  
 210 215 220

Glu Asp Thr Val Leu Leu Leu Leu Asn Ala Ile His Phe Gln Gly Phe  
 225 230 235 240

Trp Arg Asn Lys Phe Asp Pro Ser Leu Thr Gln Arg Asp Ser Phe His  
 245 250 255

Leu Asp Glu Gln Phe Thr Val Pro Val Glu Met Met Gln Ala Arg Thr  
 260 265 270

Tyr Pro Leu Arg Trp Phe Leu Leu Glu Gln Pro Glu Ile Gln Val Ala  
 275 280 285

His Phe Pro Phe Lys Asn Asn Met Ser Phe Val Val Leu Val Pro Thr  
 290 295 300

His Phe Glu Trp Asn Val Ser Gln Val Leu Ala Asn Leu Ser Trp Asp  
 305 310 315 320

Thr Leu His Pro Pro Leu Val Trp Glu Arg Pro Thr Lys Val Arg Leu  
 325 330 335

Pro Lys Leu Tyr Leu Lys His Gln Met Asp Leu Val Ala Thr Leu Ser  
 340 345 350

Gln Leu Gly Leu Gln Glu Leu Phe Gln Ala Pro Asp Leu Arg Gly Ile  
 355 360 365

3  
 Ser Glu Gln Ser Leu Val Val Ser Gly Val Gln His Gln Ser Thr Leu  
 370 375 380

Glu Leu Ser Glu Val Gly Val Glu Ala Ala Ala Ala Thr Ser Ile Ala  
 385 390 395 400

Met Ser Arg Met Ser Leu Ser Ser Phe Ser Val Asn Arg Pro Phe Leu  
 405 410 415

Phe Phe Ile Phe Glu Asp Thr Thr Gly Leu Pro Leu Phe Val Gly Ser  
 420 425 430

Val Arg Asn Pro Asn Pro Ser Ala Pro Arg Glu Leu Lys Glu Gln Gln  
 435 440 445

Asp Ser Pro Gly Asn Lys Asp Phe Leu Gln Ser Leu Lys Gly Phe Pro  
 450 455 460

Arg Gly Asp Lys Leu Phe Gly Pro Asp Leu Lys Leu Val Pro Pro Met  
 465 470 475 480

Glu Glu Asp Tyr Pro Gln Phe Gly Ser Pro Lys  
 485 490

<210> 38  
 <211> 375  
 <212> PRT  
 <213> Homo sapiens

<400> 38

Met Asp Ala Leu Gln Leu Ala Asn Ser Ala Phe Ala Val Asp Leu Phe  
 1 5 10 15

Lys Gln Leu Cys Glu Lys Glu Pro Leu Gly Asn Val Leu Phe Ser Pro  
 20 25 30

Ile Cys Leu Ser Thr Ser Leu Ser Leu Ala Gln Val Gly Ala Lys Gly

35					40					45					
Asp	Thr	Ala	Asn	Glu	Ile	Gly	Gln	Val	Leu	His	Phe	Glu	Asn	Val	Lys
50						55					60				
Asp	Ile	Pro	Phe	Gly	Phe	Gln	Thr	Val	Thr	Ser	Asp	Val	Asn	Lys	Leu
65					70					75					80
Ser	Ser	Phe	Tyr	Ser	Leu	Lys	Leu	Ile	Lys	Arg	Leu	Tyr	Val	Asp	Lys
				85					90					95	
Ser	Leu	Asn	Leu	Ser	Thr	Glu	Phe	Ile	Ser	Ser	Thr	Lys	Arg	Pro	Tyr
			100					105						110	
Ala	Lys	Glu	Leu	Glu	Thr	Val	Asp	Phe	Lys	Asp	Lys	Leu	Glu	Glu	Thr
		115					120					125			
Lys	Gly	Gln	Ile	Asn	Asn	Ser	Ile	Lys	Asp	Leu	Thr	Asp	Gly	His	Phe
	130					135					140				
Glu	Asn	Ile	Leu	Ala	Asp	Asn	Ser	Val	Asn	Asp	Gln	Thr	Lys	Ile	Leu
145					150					155					160
Val	Val	Asn	Ala	Ala	Tyr	Phe	Val	Gly	Lys	Trp	Met	Lys	Lys	Phe	Pro
				165					170					175	
Glu	Ser	Glu	Thr	Lys	Glu	Cys	Pro	Phe	Arg	Leu	Asn	Lys	Thr	Asp	Thr
			180					185					190		
Lys	Pro	Val	Gln	Met	Met	Asn	Met	Glu	Ala	Thr	Phe	Cys	Met	Gly	Asn
		195					200					205			
Ile	Asp	Ser	Ile	Asn	Cys	Lys	Ile	Ile	Glu	Leu	Pro	Phe	Gln	Asn	Lys
	210					215					220				
His	Leu	Ser	Met	Phe	Ile	Leu	Leu	Pro	Lys	Asp	Val	Glu	Asp	Glu	Ser
225					230					235					240
Thr	Gly	Leu	Glu	Lys	Ile	Glu	Lys	Gln	Leu	Asn	Ser	Glu	Ser	Leu	Ser
				245					250					255	
Gln	Trp	Thr	Asn	Pro	Ser	Thr	Met	Ala	Asn	Ala	Lys	Val	Lys	Leu	Ser
			260					265					270		
Ile	Pro	Lys	Phe	Lys	Val	Glu	Lys	Met	Ile	Asp	Pro	Lys	Ala	Cys	Leu
		275						280				285			

Glu Asn Leu Gly Leu Lys His Ile Phe Ser Glu Asp Thr Ser Asp Phe  
290 295 300

Ser Gly Met Ser Glu Thr Lys Gly Val Ala Leu Ser Asn Val Ile His  
305 310 315 320

Lys Val Cys Leu Glu Ile Thr Glu Asp Gly Gly Asp Ser Ile Glu Val  
325 330 335

Pro Gly Ala Arg Ile Leu Gln His Lys Asp Glu Leu Asn Ala Asp His  
340 345 350

Pro Phe Ile Tyr Ile Ile Arg His Asn Lys Thr Arg Asn Ile Ile Phe  
355 360 365

Phe Gly Lys Phe Cys Ser Pro  
370 375

<210> 39  
<211> 416  
<212> PRT  
<213> Rattus norvegicus

<400> 39

Met Ala Phe Ile Ala Ala Leu Gly Leu Leu Met Ala Gly Ile Cys Pro  
1 5 10 15

Ala Val Leu Cys Asp Gly Ile Leu Gly Arg Asp Thr Leu Pro His Glu  
20 25 30

Asp Gln Gly Lys Gly Arg Gln Leu His Ser Leu Thr Leu Ala Ser Ile  
35 40 45

Asn Thr Asp Phe Thr Leu Ser Leu Tyr Lys Lys Leu Ala Leu Arg Asn  
50 55 60

Pro Asp Lys Asn Val Val Phe Ser Pro Leu Ser Ile Ser Ala Ala Leu  
65 70 75 80

Ala Ile Leu Ser Leu Gly Ala Lys Asp Ser Thr Met Glu Glu Ile Leu  
85 90 95

Glu Gly Leu Lys Phe Asn Leu Thr Glu Ile Thr Glu Glu Glu Ile His  
100 105 110

Gln Gly Phe Gly His Leu Leu Gln Arg Leu Ser Gln Pro Glu Asp Gln  
115 120 125

Ala Glu Ile Asn Thr Gly Ser Ala Leu Phe Ile Asp Lys Glu Gln Pro  
130 135 140

Ile Leu Ser Glu Phe Gln Glu Lys Thr Arg Ala Leu Tyr Gln Ala Glu  
145 150 155 160

Ala Phe Val Ala Asp Phe Lys Gln Cys Asn Glu Ala Lys Lys Phe Ile  
165 170 175

Asn Asp Tyr Val Ser Asn Gln Thr Gln Gly Lys Ile Ala Glu Leu Phe  
180 185 190

Ser Glu Leu Asp Glu Arg Thr Ser Met Val Leu Val Asn Tyr Leu Leu  
195 200 205

Phe Lys Gly Lys Trp Lys Val Pro Phe Asn Pro Asn Asp Thr Phe Glu  
210 215 220

Ser Glu Phe Tyr Leu Asp Glu Lys Arg Ser Val Lys Val Pro Met Met  
225 230 235 240

Lys Ile Lys Asp Leu Thr Thr Pro Tyr Ile Arg Asp Glu Glu Leu Ser  
245 250 255

Cys Ser Val Leu Glu Leu Lys Tyr Thr Gly Asn Ala Ser Ala Leu Phe  
260 265 270

Ile Leu Pro Asp Gln Gly Lys Met Gln Gln Val Glu Ser Ser Leu Gln  
275 280 285

Pro Glu Thr Leu Lys Lys Trp Lys Asp Ser Leu Arg Pro Arg Ile Ile  
290 295 300

Ser Glu Leu Arg Met Pro Lys Phe Ser Ile Ser Thr Asp Tyr Asn Leu  
305 310 315 320

Glu Glu Val Leu Pro Glu Leu Gly Ile Arg Lys Ile Phe Ser Gln Gln  
325 330 335

Ala Asp Leu Ser Arg Ile Thr Gly Thr Lys Asn Leu His Val Ser Gln  
340 345 350



Val Val His Lys Ala Val Leu Asp Val Asp Glu Thr Gly Thr Glu Gly  
 355 360 365

Ala Ala Ala Thr Ala Val Thr Ala Ala Leu Lys Ser Leu Pro Gln Thr  
 370 375 380

Ile Pro Leu Leu Asn Phe Asn Arg Pro Phe Met Leu Val Ile Thr Asp  
 385 390 395 400

Asn Asn Gly Gln Ser Val Phe Phe Met Gly Lys Val Thr Asn Pro Met  
 405 410 415

<210> 40  
 <211> 18  
 <212> PRT  
 <213> Equus caballus

<400> 40

Leu Ala Met Leu Met Pro Glu Glu Asn Phe Asn Ala Asp His Pro Phe  
 1 5 10 15

Ile Phe

<210> 41  
 <211> 416  
 <212> PRT  
 <213> Homo sapiens

<400> 41

Met Gln Ala Leu Val Leu Leu Leu Trp Thr Gly Ala Leu Leu Gly Phe  
 1 5 10 15

Gly Arg Cys Gln Asn Ala Gly Gln Glu Ala Gly Ser Leu Thr Pro Glu  
 20 25 30

Ser Thr Gly Ala Pro Val Glu Glu Glu Asp Pro Phe Phe Lys Val Pro  
 35 40 45

Val Asn Lys Leu Ala Ala Ala Val Ser Asn Phe Gly Tyr Asp Leu Tyr  
 50 55 60

Arg Val Arg Ser Gly Glu Ser Pro Thr Ala Asn Val Leu Leu Ser Pro  
 65 70 75 80

Leu Ser Val Ala Thr Ala Leu Ser Ala Leu Ser Leu Gly Ala Glu Gln  
 85 90 95

Arg Thr Glu Ser Asn Ile His Arg Ala Leu Tyr Tyr Asp Leu Ile Ser  
100 105 110

Asn Pro Asp Ile His Gly Thr Tyr Lys Asp Leu Leu Ala Ser Val Thr  
115 120 125

Ala Pro Gln Lys Asn Leu Lys Ser Ala Ser Arg Ile Ile Phe Glu Arg  
130 135 140

Lys Leu Arg Ile Lys Ala Ser Phe Ile Pro Pro Leu Glu Lys Ser Tyr  
145 150 155 160

Gly Thr Arg Pro Arg Ile Leu Thr Gly Asn Ser Arg Val Asp Leu Gln  
165 170 175

Glu Ile Asn Asn Trp Val Gln Ala Gln Met Lys Gly Lys Val Ala Arg  
180 185 190

Ser Thr Arg Glu Met Pro Ser Glu Ile Ser Ile Phe Leu Leu Gly Val  
195 200 205

Ala Tyr Phe Lys Gly Gln Trp Val Thr Lys Phe Asp Ser Arg Lys Thr  
210 215 220

Ser Leu Glu Asp Phe Tyr Leu Asp Glu Glu Arg Thr Val Lys Val Pro  
225 230 235 240

Met Met Ser Asp Pro Gln Ala Val Leu Arg Tyr Gly Leu Asp Ser Asp  
245 250 255

Leu Asn Cys Lys Ile Ala Gln Leu Pro Leu Thr Gly Ser Thr Ser Ile  
260 265 270

Ile Phe Phe Leu Pro Gln Lys Val Thr Gln Asn Leu Thr Leu Ile Glu  
275 280 285

Glu Ser Leu Thr Ser Glu Phe Ile His Asp Ile Asp Arg Glu Leu Lys  
290 295 300

Thr Val Gln Ala Val Leu Thr Ile Pro Lys Leu Lys Leu Ser Tyr Glu  
305 310 315 320

Gly Glu Leu Thr Lys Ser Val Gln Glu Leu Lys Leu Gln Ser Leu Phe  
325 330 335

Asp Ala Pro Asp Phe Ser Lys Ile Thr Gly Lys Pro Ile Lys Leu Thr  
 340 345 350

Gln Val Glu His Arg Val Gly Phe Glu Trp Asn Glu Asp Gly Ala Gly  
 355 360 365

Thr Asn Ser Ser Pro Gly Val Gln Pro Ala Arg Leu Thr Phe Pro Leu  
 370 375 380

Asp Tyr His Leu Asn Gln Pro Phe Ile Phe Val Leu Arg Asp Thr Asp  
 385 390 395 400

Thr Gly Ala Leu Leu Phe Ile Gly Lys Ile Leu Asp Pro Arg Gly Thr  
 405 410 415

<210> 42  
 <211> 418  
 <212> PRT  
 <213> Homo sapiens

<400> 42

Met Gln Ala Leu Val Leu Leu Leu Cys Ile Gly Ala Leu Leu Gly His  
 1 5 10 15

Ser Ser Cys Gln Asn Pro Ala Ser Pro Pro Glu Glu Gly Ser Pro Asp  
 20 25 30

Pro Asp Ser Thr Gly Ala Leu Val Glu Glu Glu Asp Pro Phe Phe Lys  
 35 40 45

Val Pro Val Asn Lys Leu Ala Ala Val Ser Asn Phe Gly Tyr Asp  
 50 55 60

Leu Tyr Arg Val Arg Ser Ser Met Ser Pro Thr Thr Asn Val Leu Leu  
 65 70 75 80

Ser Pro Leu Ser Val Ala Thr Ala Leu Ser Ala Leu Ser Leu Gly Ala  
 85 90 95

Asp Glu Arg Thr Glu Ser Ile Ile His Arg Ala Leu Tyr Tyr Asp Leu  
 100 105 110

Ile Ser Ser Pro Asp Ile His Gly Thr Tyr Lys Glu Leu Leu Asp Thr  
 115 120 125

Val Thr Ala Pro Gln Lys Asn Leu Lys Ser Ala Ser Arg Ile Val Phe  
 130 135 140

Glu Lys Lys Leu Arg Ile Lys Ser Ser Phe Val Ala Pro Leu Glu Lys  
 145 150 155 160

Ser Tyr Gly Thr Arg Pro Arg Val Leu Thr Gly Asn Pro Arg Leu Asp  
 165 170 175

Leu Gln Glu Ile Asn Asn Trp Val Gln Ala Gln Met Lys Gly Lys Leu  
 180 185 190

Ala Arg Ser Thr Lys Glu Ile Pro Asp Glu Ile Ser Ile Leu Leu Leu  
 195 200 205

Gly Val Ala His Phe Lys Gly Gln Trp Val Thr Lys Phe Asp Ser Arg  
 210 215 220

Lys Thr Ser Leu Glu Asp Phe Tyr Leu Asp Glu Glu Arg Thr Val Arg  
 225 230 235 240

Val Pro Met Met Ser Asp Pro Lys Ala Val Leu Arg Tyr Gly Leu Asp  
 245 250 255

Ser Asp Leu Ser Cys Lys Ile Ala Gln Leu Pro Leu Thr Gly Ser Met  
 260 265 270

Ser Ile Ile Phe Phe Leu Pro Leu Lys Val Thr Gln Asn Leu Thr Leu  
 275 280 285

Ile Glu Glu Ser Leu Thr Ser Glu Phe Ile His Asp Ile Asp Arg Glu  
 290 295 300

Leu Lys Thr Val Gln Ala Val Leu Thr Val Pro Lys Leu Lys Leu Ser  
 305 310 315 320

Tyr Glu Gly Glu Val Thr Lys Ser Leu Gln Glu Met Lys Leu Gln Ser  
 325 330 335

Leu Phe Asp Ser Pro Asp Phe Ser Lys Ile Thr Gly Lys Pro Ile Lys  
 340 345 350

Leu Thr Gln Val Glu His Arg Ala Gly Phe Glu Trp Asn Glu Asp Gly  
 355 360 365

Ala Gly Thr Thr Pro Ser Pro Gly Leu Gln Pro Ala His Leu Thr Phe  
 370 375 380

Pro Leu Asp Tyr His Leu Asn Gln Pro Phe Ile Phe Val Leu Arg Asp  
 385 390 395 400

Thr Asp Thr Gly Ala Leu Leu Phe Ile Gly Lys Ile Leu Asp Pro Arg  
 405 410 415

Gly Pro

<210> 43  
 <211> 415  
 <212> PRT  
 <213> Homo sapiens

<400> 43

Met Glu Asp Leu Cys Val Ala Asn Thr Leu Phe Ala Leu Asn Leu Phe  
 1 5 10 15

Lys His Leu Ala Lys Ala Ser Pro Thr Gln Asn Leu Phe Leu Ser Pro  
 20 25 30

Trp Ser Ile Ser Ser Thr Met Ala Met Val Tyr Met Gly Ser Arg Gly  
 35 40 45

Ser Thr Glu Asp Gln Met Ala Lys Val Leu Gln Phe Asn Glu Val Gly  
 50 55 60

Ala Asn Ala Val Thr Pro Met Thr Pro Glu Asn Phe Thr Ser Cys Gly  
 65 70 75 80

Phe Met Gln Gln Ile Gln Lys Gly Ser Tyr Pro Asp Ala Ile Leu Gln  
 85 90 95

Ala Gln Ala Ala Asp Lys Ile His Ser Ser Phe Arg Ser Leu Ser Ser  
 100 105 110

Ala Ile Asn Ala Ser Thr Gly Asn Tyr Leu Leu Glu Ser Val Asn Lys  
 115 120 125

Leu Phe Gly Glu Lys Ser Ala Ser Phe Arg Glu Glu Tyr Ile Arg Leu  
 130 135 140

Cys Gln Lys Tyr Tyr Ser Ser Glu Pro Gln Ala Val Asp Phe Leu Glu  
 145 150 155 160

Cys Ala Glu Glu Ala Arg Lys Lys Ile Asn Ser Trp Val Lys Thr Gln

165

170

175

Thr Lys Gly Lys Ile Pro Asn Leu Leu Pro Glu Gly Ser Val Asp Gly  
180 185 190

Asp Thr Arg Met Val Leu Val Asn Ala Val Tyr Phe Lys Gly Lys Trp  
195 200 205

Lys Thr Pro Phe Glu Lys Lys Leu Asn Gly Leu Tyr Pro Phe Arg Val  
210 215 220

Asn Ser Ala Gln Arg Thr Pro Val Gln Met Met Tyr Leu Arg Glu Lys  
225 230 235 240

Leu Asn Ile Gly Tyr Ile Glu Asp Leu Lys Ala Gln Ile Leu Glu Leu  
245 250 255

Pro Tyr Ala Gly Asp Val Ser Met Phe Leu Leu Leu Pro Asp Glu Ile  
260 265 270

Ala Asp Val Ser Thr Gly Leu Glu Leu Leu Glu Ser Glu Ile Thr Tyr  
275 280 285

Asp Lys Leu Asn Lys Trp Thr Ser Lys Asp Lys Met Ala Glu Asp Glu  
290 295 300

Val Glu Val Tyr Ile Pro Gln Phe Lys Leu Glu Glu His Tyr Glu Leu  
305 310 315 320

Arg Ser Ile Leu Arg Ser Met Gly Met Glu Asp Ala Phe Asn Lys Gly  
325 330 335

Arg Ala Asn Phe Ser Gly Met Ser Glu Arg Asn Asp Leu Phe Leu Ser  
340 345 350

Glu Val Phe His Gln Ala Met Val Asp Val Asn Glu Glu Gly Thr Glu  
355 360 365

Ala Ala Ala Gly Thr Gly Gly Val Met Thr Gly Arg Thr Gly His Gly  
370 375 380

Gly Pro Gln Phe Val Ala Asp His Pro Phe Leu Phe Leu Ile Met His  
385 390 395 400

Lys Ile Thr Asn Cys Ile Leu Phe Phe Gly Arg Phe Ser Ser Pro  
405 410 415

<210> 44  
 <211> 415  
 <212> PRT  
 <213> Homo sapiens

<400> 44

Met Ser Pro Phe Leu Tyr Leu Val Leu Leu Val Leu Gly Leu His Ala  
 1 5 10 15

Thr Ile His Cys Ala Ser Pro Glu Gly Lys Val Thr Ala Cys His Ser  
 20 25 30

Ser Gln Pro Asn Ala Thr Leu Tyr Lys Met Ser Ser Ile Asn Ala Asp  
 35 40 45

Phe Ala Phe Asn Leu Tyr Arg Arg Phe Thr Val Glu Thr Pro Asp Lys  
 50 55 60

Asn Ile Phe Phe Ser Pro Val Ser Ile Ser Ala Ala Leu Val Met Leu  
 65 70 75 80

Ser Phe Gly Ala Cys Cys Ser Thr Gln Thr Glu Ile Val Glu Thr Leu  
 85 90 95

Gly Phe Asn Leu Thr Asp Thr Pro Met Val Glu Ile Gln His Gly Phe  
 100 105 110

Gln His Leu Ile Cys Ser Leu Asn Phe Pro Lys Lys Glu Leu Glu Leu  
 115 120 125

Gln Ile Gly Asn Ala Leu Phe Ile Gly Lys His Leu Lys Pro Leu Ala  
 130 135 140

Lys Phe Leu Asn Asp Val Lys Thr Leu Tyr Glu Thr Glu Val Phe Ser  
 145 150 155 160

Thr Asp Phe Ser Asn Ile Ser Ala Ala Lys Gln Glu Ile Asn Ser His  
 165 170 175

Val Glu Met Gln Thr Lys Gly Lys Val Val Gly Leu Ile Gln Asp Leu  
 180 185 190

Lys Pro Asn Thr Ile Met Val Leu Val Asn Tyr Ile His Phe Lys Ala  
 195 200 205

Gln Trp Ala Asn Pro Phe Asp Pro Ser Lys Thr Glu Asp Ser Ser Ser  
 210 215 220

Phe Leu Ile Asp Lys Thr Thr Thr Val Gln Val Pro Met Met His Gln  
 225 230 235 240

Met Glu Gln Tyr Tyr His Leu Val Asp Met Glu Leu Asn Cys Thr Val  
 245 250 255

Leu Gln Met Asp Tyr Ser Lys Asn Ala Leu Ala Leu Phe Val Leu Pro  
 260 265 270

Lys Glu Gly Gln Met Glu Ser Val Glu Ala Ala Met Ser Ser Lys Thr  
 275 280 285

Leu Lys Lys Trp Asn Arg Leu Leu Gln Lys Gly Trp Val Asp Leu Phe  
 290 295 300

Val Pro Lys Phe Ser Ile Ser Ala Thr Tyr Asp Leu Gly Ala Thr Leu  
 305 310 315 320

Leu Lys Met Gly Ile Gln His Ala Tyr Ser Glu Asn Ala Asp Phe Ser  
 325 330 335

Gly Leu Thr Glu Asp Asn Gly Leu Lys Leu Ser Asn Ala Ala His Lys  
 340 345 350

Ala Val Leu His Ile Gly Glu Lys Gly Thr Glu Ala Ala Ala Val Pro  
 355 360 365

Glu Val Glu Leu Ser Asp Gln Pro Glu Asn Thr Phe Leu His Pro Ile  
 370 375 380

Ile Gln Ile Asp Arg Ser Phe Met Leu Leu Ile Leu Glu Arg Ser Thr  
 385 390 395 400

Arg Ser Ile Leu Phe Leu Gly Lys Val Val Asn Pro Thr Glu Ala  
 405 410 415

<210> 45  
 <211> 480  
 <212> PRT  
 <213> Homo sapiens

<400> 45

Met Gln His Arg Pro His Leu Leu Leu Ile Ser Leu Thr Ile Met Ser



1	5	10	15
Val Cys Gly Gly Ser Asn Gly Leu Thr Asp Gln Leu Asn Asn Lys Asn	20	25	30
Leu Thr Met Pro Leu Leu Pro Ile Glu Phe His Lys Glu Asn Thr Val	35	40	45
Thr Asn Asp Trp Ile Pro Glu Gly Glu Glu Asp Asp Asp Tyr Leu Asp	50	55	60
Leu Glu Lys Leu Leu Ser Glu Asp Asp Asp Tyr Ile Asp Ile Ile Asp	65	70	75
Ala Val Ser Pro Thr Asp Ser Glu Ala Ser Ala Gly Asn Ile Leu Gln	85	90	95
Leu Phe Gln Gly Lys Ser Arg Ile Gln Arg Leu Asn Ile Leu Asn Ala	100	105	110
Lys Phe Ala Phe Ser Leu Tyr Arg Ala Leu Lys Asp Gln Ala Asn Ala	115	120	125
Phe Asp Asn Ile Phe Ile Ala Pro Val Gly Ile Ser Thr Ala Met Gly	130	135	140
Met Ile Ser Leu Gly Leu Lys Gly Glu Thr His Glu Gln Val His Ser	145	150	155
Val Leu His Phe Arg Asp Phe Val Asn Ala Ser Ser Lys Tyr Glu Ile	165	170	175
Leu Thr Ile His Asn Leu Phe Arg Lys Leu Thr His Arg Leu Phe Arg	180	185	190
Arg Asn Phe Gly Tyr Thr Leu Arg Ser Val Asn Asp Leu Tyr Val Gln	195	200	205
Lys Gln Phe Pro Ile Arg Glu Asp Phe Lys Ala Lys Val Arg Glu Tyr	210	215	220
Tyr Phe Ala Glu Ala Gln Ala Ala Asp Phe Ser Asp Pro Ala Phe Ile	225	230	235
Ser Lys Ala Asn Asn His Ile Leu Lys Val Thr Lys Gly Leu Ile Lys	245	250	255

Glu Ala Leu Glu Asn Val Asp Pro Ala Thr Gln Met Met Ile Leu Asn  
260 265 270

Cys Ile Tyr Phe Lys Gly Thr Trp Val Asn Lys Phe Pro Val Glu Met  
275 280 285

Thr His Asn His Asn Phe Arg Leu Asn Glu Arg Glu Val Val Lys Val  
290 295 300

Ser Met Met Gln Thr Lys Gly Asn Phe Leu Ala Ala Asn Asp Gln Glu  
305 310 315 320

Leu Ala Cys Asp Val Leu Gln Leu Glu Tyr Val Gly Gly Ile Ser Met  
325 330 335

Leu Ile Val Val Pro His Lys Leu Ser Gly Met Lys Thr Leu Glu Ala  
340 345 350

Gln Leu Thr Pro Gln Val Val Glu Arg Trp Gln Lys Ser Met Thr Asn  
355 360 365

Arg Thr Arg Glu Val Leu Leu Pro Lys Phe Lys Leu Glu Lys Asn Tyr  
370 375 380

Asn Leu Val Glu Ala Leu Lys Ser Met Gly Val Thr Glu Leu Phe Asp  
385 390 395 400

Lys Asn Gly Asn Met Ser Gly Ile Ser Asp Gln Gly Ile Thr Met Asp  
405 410 415

Leu Phe Lys His Gln Gly Thr Ile Thr Val Asn Glu Glu Gly Thr Gln  
420 425 430

Ala Ala Ala Val Thr Thr Val Gly Phe Met Pro Leu Ser Thr Gln Val  
435 440 445

Arg Phe Thr Val Asp Arg Pro Phe Leu Phe Leu Val Tyr Glu His Arg  
450 455 460

Thr Ser Cys Leu Leu Phe Met Gly Lys Val Ala Asn Pro Val Arg Ser  
465 470 475 480

<210> 46  
<211> 499  
<212> PRT

<213> Homo sapiens

<400> 46

Met Lys His Ser Leu Asn Ala Leu Leu Ile Phe Leu Ile Ile Thr Ser  
1 5 10 15

Ala Trp Gly Gly Ser Lys Gly Pro Leu Asp Gln Leu Glu Lys Gly Gly  
20 25 30

Glu Thr Ala Gln Ser Ala Asp Pro Gln Trp Glu Gln Leu Asn Asn Lys  
35 40 45

Asn Leu Ser Met Pro Leu Leu Pro Ala Asp Phe His Lys Glu Asn Thr  
50 55 60

Val Thr Asn Asp Trp Ile Pro Glu Gly Glu Glu Asp Asp Asp Tyr Leu  
65 70 75 80

Asp Leu Glu Lys Ile Phe Ser Glu Asp Asp Asp Tyr Ile Asp Ile Val  
85 90 95

Asp Ser Leu Ser Val Ser Pro Thr Asp Ser Asp Val Ser Ala Gly Asn  
100 105 110

Ile Leu Gln Leu Phe His Gly Lys Ser Arg Ile Gln Arg Leu Asn Ile  
115 120 125

Leu Asn Ala Lys Phe Ala Phe Asn Leu Tyr Arg Val Leu Lys Asp Gln  
130 135 140

Val Asn Thr Phe Asp Asn Ile Phe Ile Ala Pro Val Gly Ile Ser Thr  
145 150 155 160

Ala Met Gly Met Ile Ser Leu Gly Leu Lys Gly Glu Thr His Glu Gln  
165 170 175

Val His Ser Ile Leu His Phe Lys Asp Phe Val Asn Ala Ser Ser Lys  
180 185 190

Tyr Glu Ile Thr Thr Ile His Asn Leu Phe Arg Lys Leu Thr His Arg  
195 200 205

Leu Phe Arg Arg Asn Phe Gly Tyr Thr Leu Arg Ser Val Asn Asp Leu  
210 215 220

Tyr Ile Gln Lys Gln Phe Pro Ile Leu Leu Asp Phe Lys Thr Lys Val  
 225 230 235 240

Arg Glu Tyr Tyr Phe Ala Glu Ala Gln Ile Ala Asp Phe Ser Asp Pro  
 245 250 255

Ala Phe Ile Ser Lys Thr Asn Asn His Ile Met Lys Leu Thr Lys Gly  
 260 265 270

Leu Ile Lys Asp Ala Leu Glu Asn Ile Asp Pro Ala Thr Gln Met Met  
 275 280 285

Ile Leu Asn Cys Ile Tyr Phe Lys Gly Ser Trp Val Asn Lys Phe Pro  
 290 295 300

Val Glu Met Thr His Asn His Asn Phe Arg Leu Asn Glu Arg Glu Val  
 305 310 315 320

Val Lys Val Ser Met Met Gln Thr Lys Gly Asn Phe Leu Ala Ala Asn  
 325 330 335

Asp Gln Glu Leu Asp Cys Asp Ile Leu Gln Leu Glu Tyr Val Gly Gly  
 340 345 350

Ile Ser Met Leu Ile Val Val Pro His Lys Met Ser Gly Met Lys Thr  
 355 360 365

Leu Glu Ala Gln Leu Thr Pro Arg Val Val Glu Arg Trp Gln Lys Ser  
 370 375 380

Met Thr Asn Arg Thr Arg Glu Val Leu Leu Pro Lys Phe Lys Leu Glu  
 385 390 395 400

Lys Asn Tyr Asn Leu Val Glu Ser Leu Lys Leu Met Gly Ile Arg Met  
 405 410 415

Leu Phe Asp Lys Asn Gly Asn Met Ala Gly Ile Ser Asp Gln Arg Ile  
 420 425 430

Ala Ile Asp Leu Phe Lys His Gln Gly Thr Ile Thr Val Asn Glu Glu  
 435 440 445

Gly Thr Gln Ala Thr Thr Val Thr Thr Val Gly Phe Met Pro Leu Ser  
 450 455 460

Thr Gln Val Arg Phe Thr Val Asp Arg Pro Phe Leu Phe Leu Ile Tyr



Arg Leu Phe Gly Asp Lys Ser Leu Thr Phe Asn Glu Thr Tyr Gln Asp  
180 185 190

Ile Ser Glu Leu Val Tyr Gly Ala Lys Leu Gln Pro Leu Asp Phe Lys  
195 200 205

Glu Asn Ala Glu Gln Ser Arg Ala Ala Ile Asn Lys Trp Val Ser Asn  
210 215 220

Lys Thr Glu Gly Arg Ile Thr Asp Val Ile Pro Ser Glu Ala Ile Asn  
225 230 235 240

Glu Leu Thr Val Leu Val Leu Val Asn Thr Ile Tyr Phe Lys Gly Leu  
245 250 255

Trp Lys Ser Lys Phe Ser Pro Glu Asn Thr Arg Lys Glu Leu Phe Tyr  
260 265 270

Lys Ala Asp Gly Glu Ser Cys Ser Ala Ser Met Met Tyr Gln Glu Gly  
275 280 285

Lys Phe Arg Tyr Arg Arg Val Ala Glu Gly Thr Gln Val Leu Glu Leu  
290 295 300

Pro Phe Lys Gly Asp Asp Ile Thr Met Val Leu Ile Leu Pro Lys Pro  
305 310 315 320

Glu Lys Ser Leu Ala Lys Val Glu Lys Glu Leu Thr Pro Glu Val Leu  
325 330 335

Gln Glu Trp Leu Asp Glu Leu Glu Glu Met Met Leu Val Val His Met  
340 345 350

Pro Arg Phe Arg Ile Glu Asp Gly Phe Ser Leu Lys Glu Gln Leu Gln  
355 360 365

Asp Met Gly Leu Val Asp Leu Phe Ser Pro Glu Lys Ser Lys Leu Pro  
370 375 380

Gly Ile Val Ala Glu Gly Arg Asp Asp Leu Tyr Val Ser Asp Ala Phe  
385 390 395 400

His Lys Ala Phe Leu Glu Val Asn Glu Glu Gly Ser Glu Ala Ala Ala  
405 410 415

Ser Thr Ala Val Val Ile Ala Gly Arg Ser Leu Asn Pro Asn Arg Val  
 420 425 430

Thr Phe Lys Ala Asn Arg Pro Phe Leu Val Phe Ile Arg Glu Val Pro  
 435 440 445

Leu Asn Thr Ile Ile Phe Met Gly Arg Val Ala Asn Pro Cys Val Lys  
 450 455 460

<210> 48  
 <211> 362  
 <212> PRT  
 <213> Homo sapiens

<400> 48

Met Gln Ala Leu Val Leu Leu Leu Cys Ile Gly Ala Leu Leu Gly His  
 1 5 10 15

Ser Ser Cys Gln Asn Pro Ala Ser Pro Pro Glu Glu Gly Ser Pro Asp  
 20 25 30

Pro Asp Ser Thr Gly Ala Leu Val Glu Glu Glu Asp Pro Phe Phe Lys  
 35 40 45

Val Pro Val Asn Lys Leu Ala Ala Val Ser Asn Phe Gly Tyr Asp  
 50 55 60

Leu Tyr Arg Val Arg Ser Ser Met Ser Pro Thr Thr Asn Val Leu Leu  
 65 70 75 80

Ser Pro Leu Ser Val Ala Thr Ala Leu Ser Ala Leu Ser Leu Gly Ala  
 85 90 95

Glu Gln Arg Thr Glu Ser Ile Ile His Arg Ala Leu Tyr Tyr Asp Leu  
 100 105 110

Ile Ser Ser Pro Asp Ile His Gly Thr Tyr Lys Glu Leu Leu Asp Thr  
 115 120 125

Val Thr Ala Pro Gln Lys Asn Leu Lys Ser Ala Ser Arg Ile Val Phe  
 130 135 140

Glu Lys Lys Leu Arg Ile Lys Ser Ser Phe Val Ala Pro Leu Glu Lys  
 145 150 155 160

Ser Tyr Gly Thr Arg Pro Arg Val Leu Thr Gly Asn Pro Arg Leu Asp  
 165 170 175

Leu Gln Glu Ile Asn Asn Trp Val Gln Ala Gln Met Lys Gly Lys Leu  
 180 185 190

Ala Arg Ser Thr Lys Glu Ile Pro Asp Glu Ile Ser Ile Leu Leu Leu  
 195 200 205

Gly Val Ala His Phe Lys Gly Gln Trp Val Thr Lys Phe Asp Ser Arg  
 210 215 220

Lys Thr Ser Leu Glu Asp Phe Tyr Leu Asp Glu Glu Arg Thr Val Arg  
 225 230 235 240

Val Pro Met Met Ser Asp Pro Lys Ala Val Leu Arg Tyr Gly Leu Asp  
 245 250 255

Ser Asp Leu Ser Cys Lys Ile Ala Gln Leu Pro Leu Thr Gly Ser Met  
 260 265 270

Ser Ile Ile Phe Phe Leu Pro Leu Lys Val Thr Gln Asn Leu Thr Leu  
 275 280 285

Ile Glu Glu Ser Leu Thr Ser Glu Phe Ile His Asp Ile Asp Arg Glu  
 290 295 300

Leu Lys Thr Val Gln Ala Val Leu Thr Val Pro Lys Leu Lys Leu Ser  
 305 310 315 320

Tyr Glu Gly Glu Val Thr Lys Ser Leu Gln Glu Met Lys Leu Gln Ser  
 325 330 335

Leu Phe Asp Ser Pro Asp Phe Ser Lys Ile Thr Gly Lys Pro Ile Lys  
 340 345 350

Leu Thr Gln Gly Gly Thr Pro Gly Trp Leu  
 355 360

<210> 49  
 <211> 410  
 <212> PRT  
 <213> Homo sapiens

<400> 49

Met Ala Trp Ala Ala Pro His Glu Gly His Asp His Asp Gly His Pro  
 1 5 10 15



Ala Asp His Tyr His His Leu His His Gly Lys Asp Glu Ala His Pro  
 20 25 30  
 Ser His Ser Gly Glu Asp Ala Cys His Leu Leu Ser Pro His Asn Ala  
 35 40 45  
 Asp Phe Ala Phe Ser Leu Tyr Lys Lys Leu Ala Leu His Pro Asp Ala  
 50 55 60  
 Gln Gly Lys Asn Ile Phe Phe Ser Pro Val Gly Ile Ser Met Ala Leu  
 65 70 75 80  
 Ser Met Leu Ala Val Gly Ala Lys Gly Ser Thr Leu Ser Gln Ile Tyr  
 85 90 95  
 Ser Ser Leu Gly Tyr Ser Gly Leu Lys Ala Gln Gln Val Asn Glu Gly  
 100 105 110  
 Tyr Glu His Leu Ile His Met Leu Gly His Ser Gln Asp Thr Met Gln  
 115 120 125  
 Leu Glu Ala Gly Ala Gly Val Ala Ile Arg Glu Gly Phe Lys Val Val  
 130 135 140  
 Asp Gln Phe Leu Lys Asp Val Gln His Tyr Tyr Asn Ser Glu Ala Phe  
 145 150 155 160  
 Ser Val Asp Phe Ser Lys Pro Glu Ile Ala Ala Glu Glu Ile Asn Gln  
 165 170 175  
 Phe Ile Ala Lys Lys Thr Asn Asp Lys Ile Thr Asp Met Val Lys Asp  
 180 185 190  
 Leu Asp Ser Asp Met Val Met Met Leu Ile Asn Tyr Met Tyr Phe Arg  
 195 200 205  
 Gly Lys Trp Asp Lys Pro Phe Glu Ala Gln Leu Thr His Lys Ala Glu  
 210 215 220  
 Phe Lys Val Asp Lys Asp Thr Thr Val Gln Val Asp Met Met Lys Arg  
 225 230 235 240  
 Thr Gly Arg Tyr Asp Ile Tyr Gln Asp Pro Val Asn Gln Thr Thr Val  
 245 250 255  
 Met Met Val Pro Tyr Lys Gly Asn Thr Ser Met Met Ile Val Leu Pro

260                                      265                                      270  
 Asp Glu Gly Lys Met Lys Asp Val Glu Glu Ser Ile Cys Arg His His  
       275                                      280                                      285  
 Leu Lys Asn Trp His Asp Lys Leu Phe Arg Ser Ser Val Asp Leu Phe  
       290                                      295                                      300  
 Met Pro Lys Phe Ser Ile Ser Ala Thr Ser Lys Leu Asn Asp Ile Leu  
 305                                      310                                      315                                      320  
 Thr Glu Met Gly Val Thr Asp Ala Phe Ser Asp Thr Ala Asp Phe Ser  
                                     325                                      330                                      335  
 Gly Met Thr Glu Glu Leu Lys Val Lys Val Ser Gln Val Val His Lys  
                                     340                                      345                                      350  
 Ala Val Leu Ser Val Asp Glu Lys Gly Thr Glu Ala Ala Ala Ala Thr  
                                     355                                      360                                      365  
 Thr Ile Glu Ile Met Pro Met Ser Leu Pro Gly Thr Val Met Leu Asn  
       370                                      375                                      380  
 Arg Pro Phe Leu Val Leu Ile Val Glu Asp Thr Thr Lys Ser Ile Leu  
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 Phe Met Gly Lys Ile Thr Asn Pro Thr Val  
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 Ser Thr Arg Asn Leu Arg Ser Ile Gln Met Pro Arg Ala Arg Thr Phe  
                                     20                                      25                                      30  
 Ser Ser Pro Ser Arg Tyr Arg Asn Gly Phe Glu His Ala Gly Cys Arg  
       35                                      40                                      45  
 Cys Gln Gly Ser Thr Leu Ser Gln Ile Tyr Ser Ser Leu Gly Tyr Ser  
       50                                      55                                      60

Gly Leu Gln Ala Ser Gln Val Asn Glu Gly Tyr Glu His Leu Ile His  
 65 70 75 80

Met Leu Gly His Ser Arg Glu Ala Met Gln Leu Glu Ala Gly Ala Gly  
 85 90 95

Val Ala Ile Arg Glu Gly Phe Lys Val Val Asp Gln Phe Leu Lys Asp  
 100 105 110

Val Gln His Tyr Tyr Asn Ser Glu Ala Phe Ser Val Asp Phe Ser Lys  
 115 120 125

Pro Glu Ile Ala Ala Glu Glu Ile Asn Gln Phe Ile Ala Lys Lys Thr  
 130 135 140

Asn Asp Lys Ile Thr Asn Met Val Lys Asp Leu Asp Ser Asp Thr Val  
 145 150 155 160

Met Met Leu Ile Asn Tyr Met Tyr Phe Arg Gly Lys Trp Asp Lys Pro  
 165 170 175

Phe Asp Ala Gln Leu Thr His Lys Ala Asp Phe Lys Val Asp Glu Asp  
 180 185 190

Thr Thr Val Gln Val Asp Met Met Lys Arg Thr Gly Arg Tyr Asp Ile  
 195 200 205

Tyr Gln Asp Pro Val Asn Gln Thr Thr Val Met Met Val Pro Tyr Lys  
 210 215 220

Gly Asn Thr Ser Met Met Ile Ile Phe Pro Asp Asp Gly Lys Met Lys  
 225 230 235 240

Glu Leu Glu Glu Ser Ile Ser Arg His His Leu Lys Asn Trp His Asp  
 245 250 255

Lys Leu Phe Arg Ser Ser Val Asp Leu Phe Met Pro Lys Phe Ser Ile  
 260 265 270

Thr Ala Thr Ser Lys Leu Lys Gly Ile Leu Glu Asp Met Gly Val Thr  
 275 280 285

Asp Ala Phe Gly Asp Thr Ala Asp Leu Ser Gly Leu Thr Glu Glu Val  
 290 295 300

Lys Val Lys Val Ser Gln Val Val His Lys Ala Val Leu Ser Val Asp  
 305 310 315 320

Glu Lys Gly Thr Glu Ala Ala Ala Ala Thr Thr Ile Glu Ile Met Pro  
 325 330 335

Met Ser Leu Pro Asp Thr Val Ile Leu Asn Arg Pro Phe Leu Val Leu  
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